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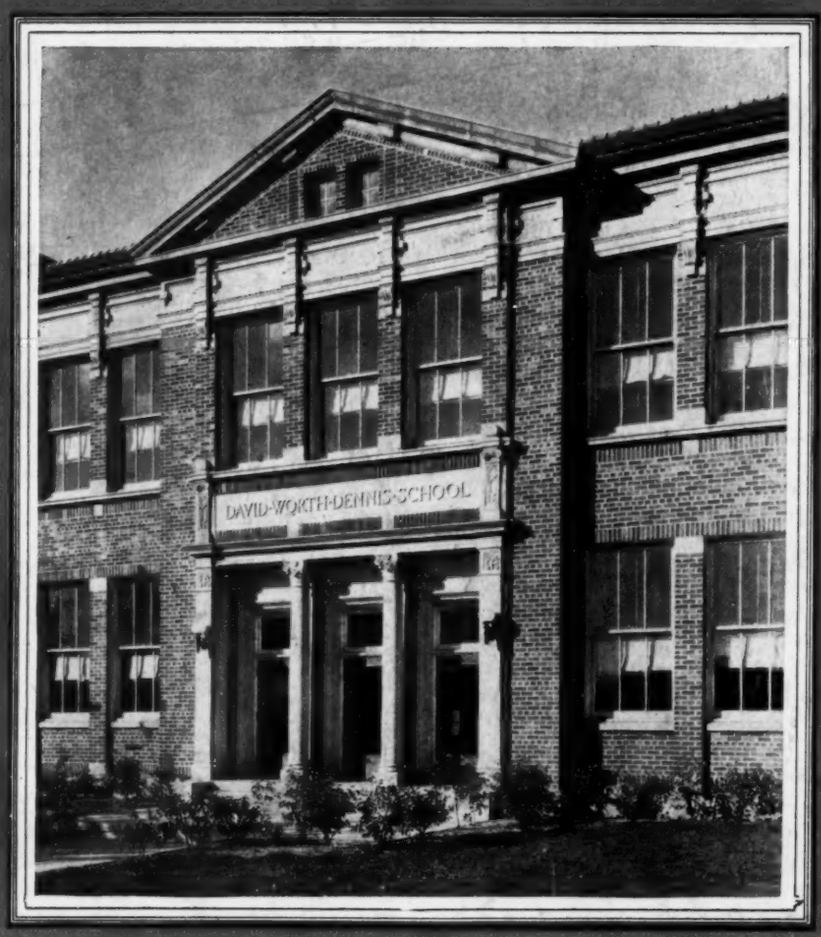
DEVOTED TO THE APPLICATION OF RESEARCH TO THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS



VOL. IV.
No. 3

SEPTEMBER
1929

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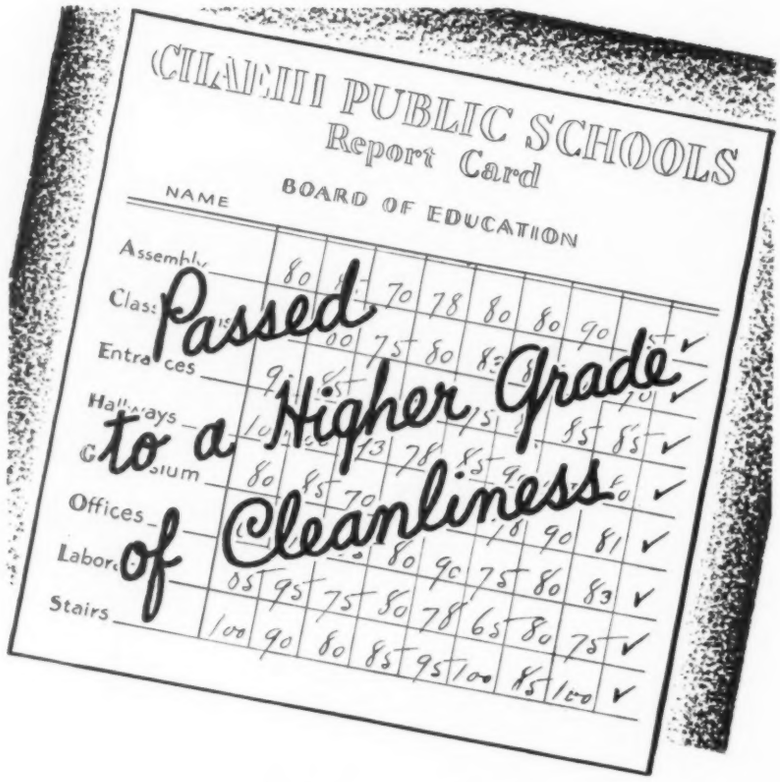

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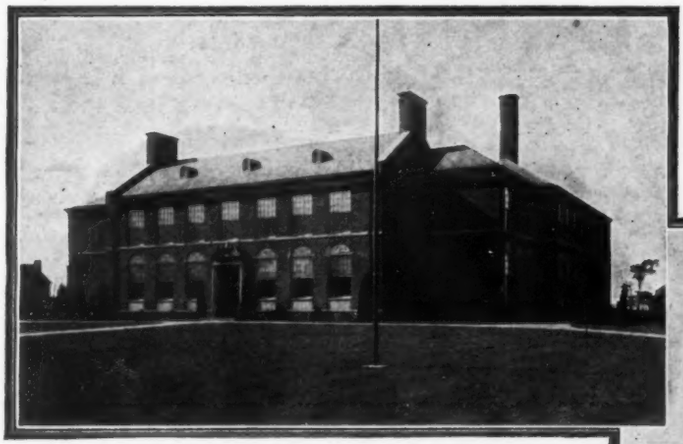

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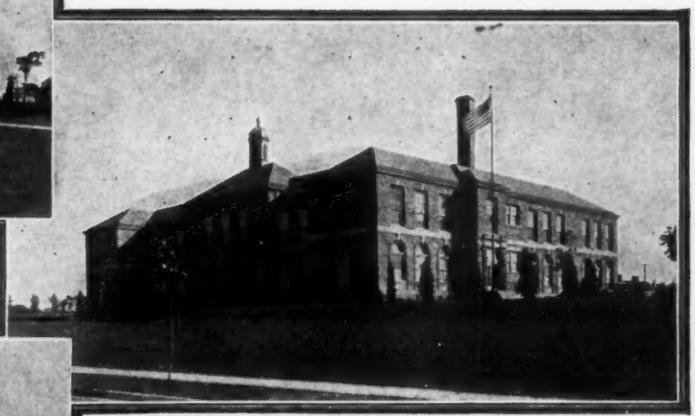

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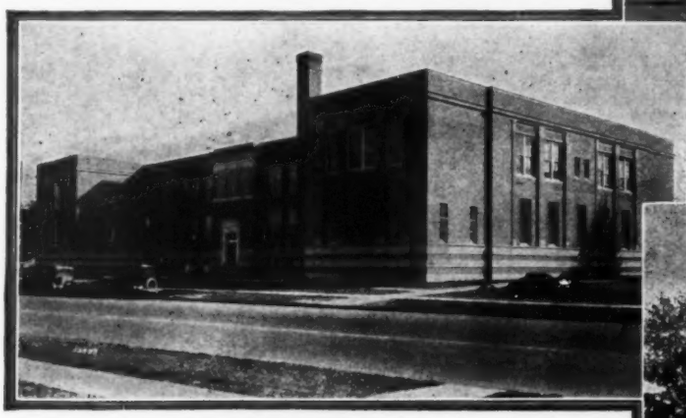

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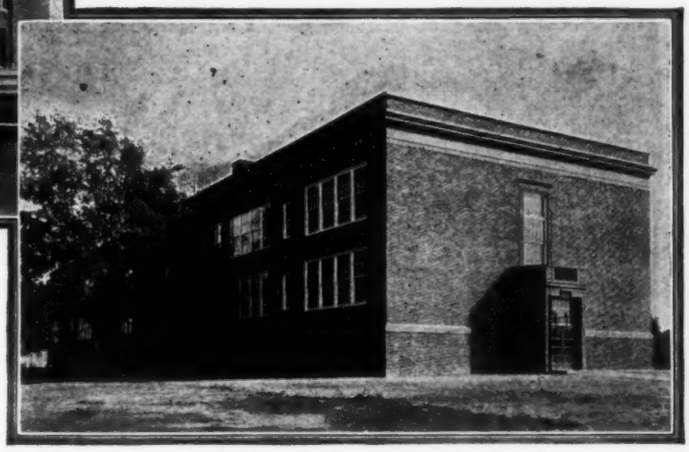

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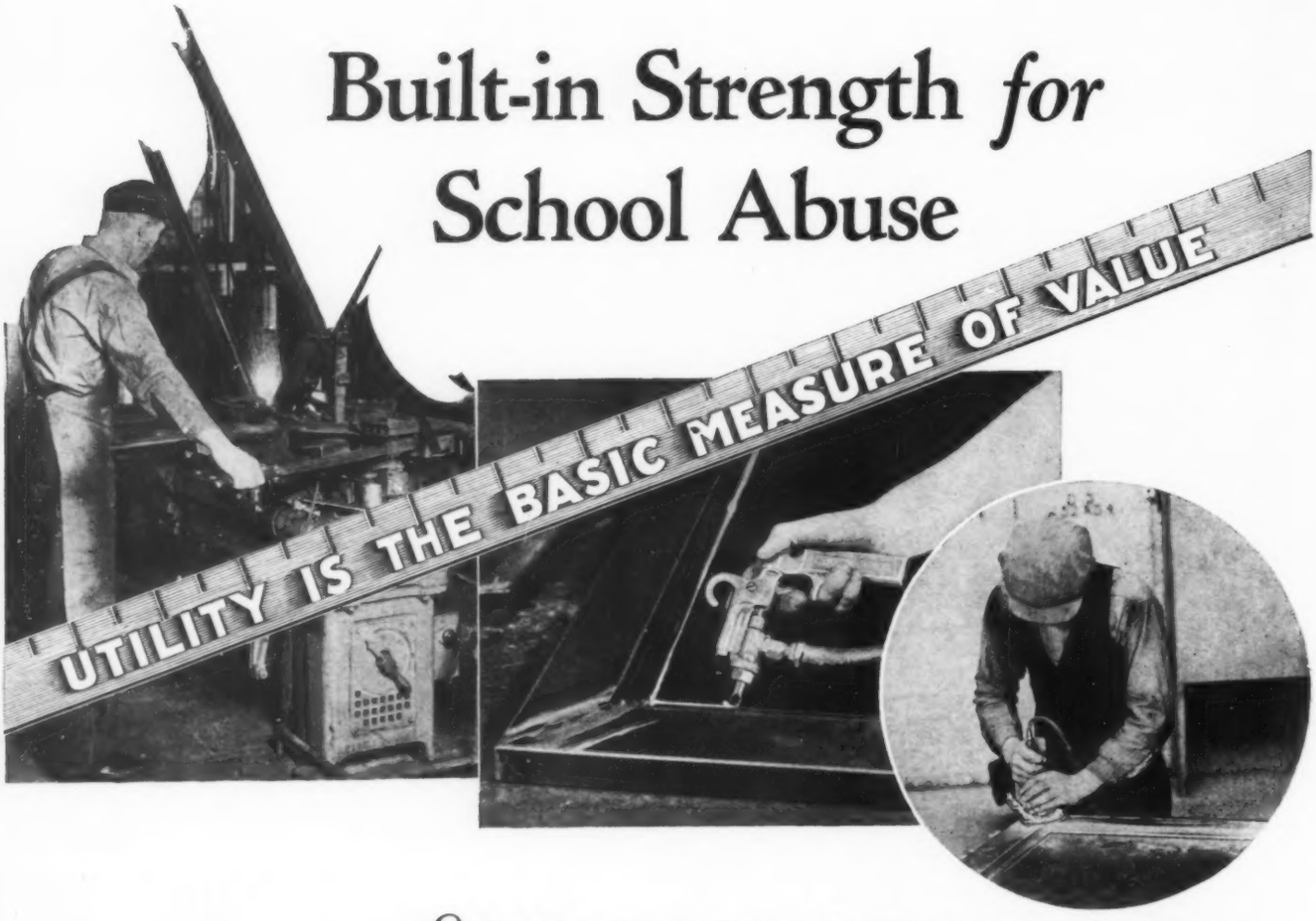

At top left we show how each door corner is electrically welded into a solid unit. The middle photograph illustrates how we seal each door joint to prevent corrosion and to insure cleanliness. Lower right illustration shows the finishing and polishing of all corners to obtain smoothness and pleasing appearance.

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These extra construction features make WEISTEEL equipment the most economical equipment you can buy. We shall be glad to tell you of a school installation near you for you to see. Write us today . . No obligation, of course . . HENRY WEIS MANUFACTURING COMPANY, INC., Elkhart, Indiana.

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Published on the fifteenth of each month by

THE NATION'S SCHOOLS PUBLISHING CO.

Member Audit Bureau of Circulations

President, OTHO F. BALL *Secretary*, STANLEY R. CLAGUE *Treasurer*, J. G. JARRETT

919 NORTH MICHIGAN, CHICAGO—Telephone, Superior 6402

NEW YORK OFFICE—11 West 42nd Street. Telephone, Longacre 6591

SUBSCRIPTION RATES—Domestic, $2.00. Canada and Foreign, $2.50. Single copies (current), 25c. Back copies, 50c. Domestic rates include United States and possessions.

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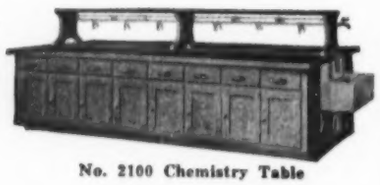

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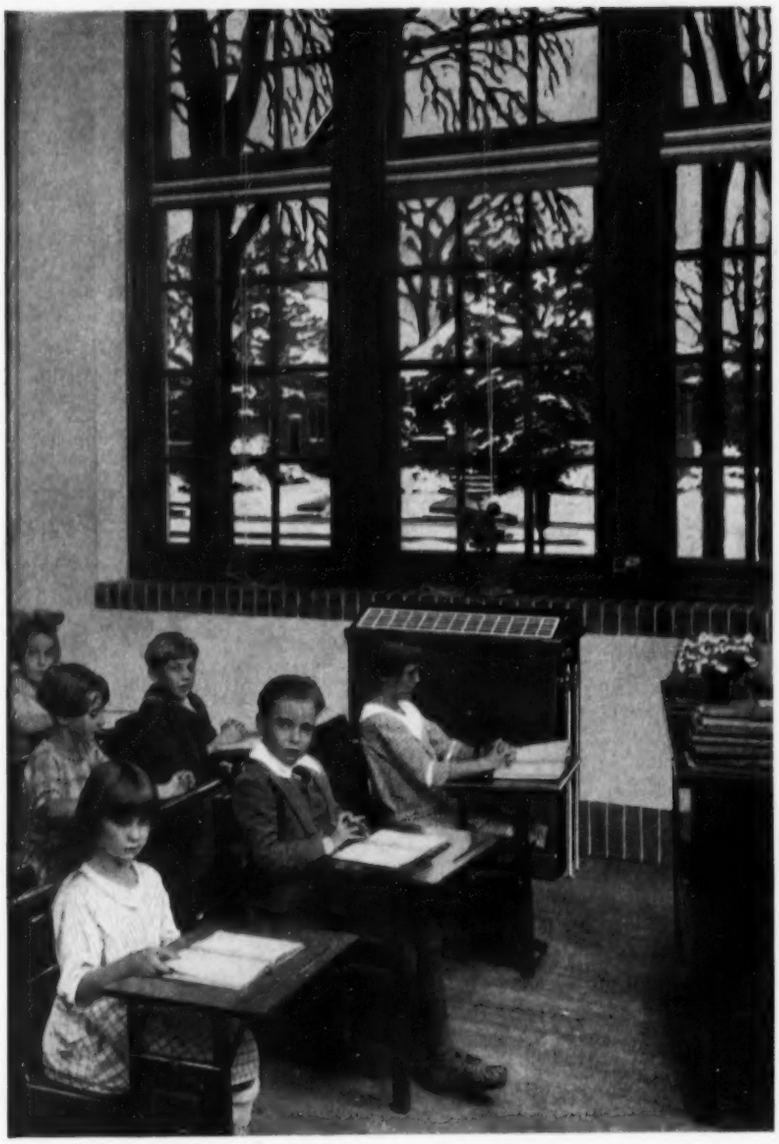

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THIS MONTH

The problem of identifying and eliminating from teachers' colleges those students who are unsuited to teaching is discussed by Mr. Courtis in the leading article on page 21 of this issue.

The place of military training in schools, long a matter of controversy, again is made the center of discussion by Mr. Carr, whose article appears on page 27.

How the parent-teacher group may help or hinder the school program is described on page 30 by Mr. Butterworth.

An interesting description of the Bellevue-Yorkville Health Demonstration Area, New York City, is presented on page 33 by two of the supervisors.

The factors in planning, building and landscaping Scripps College, Claremont, Calif., are presented on page 51 by Mr. Edwards, who illustrates his article with several particularly beautiful photographs.

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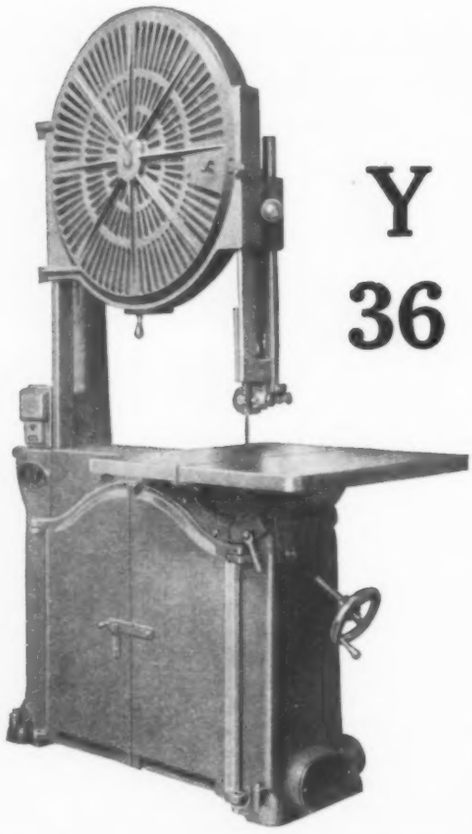

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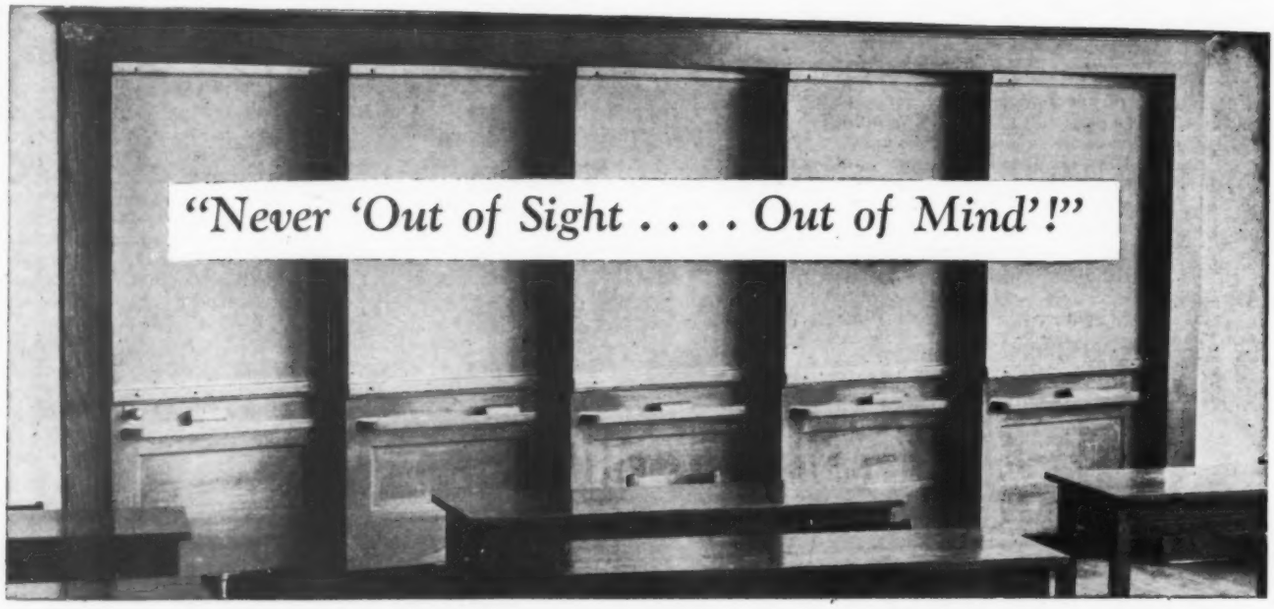

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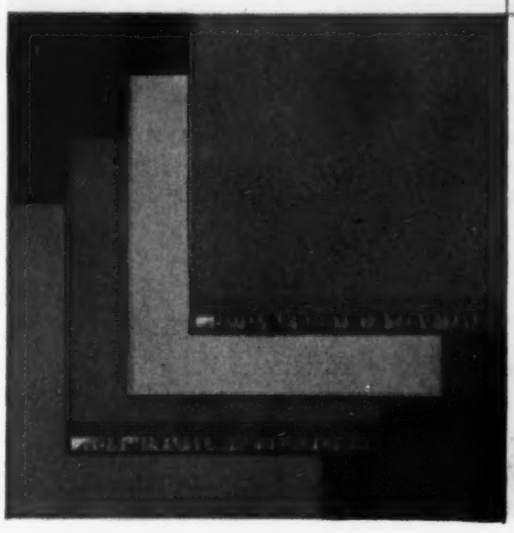

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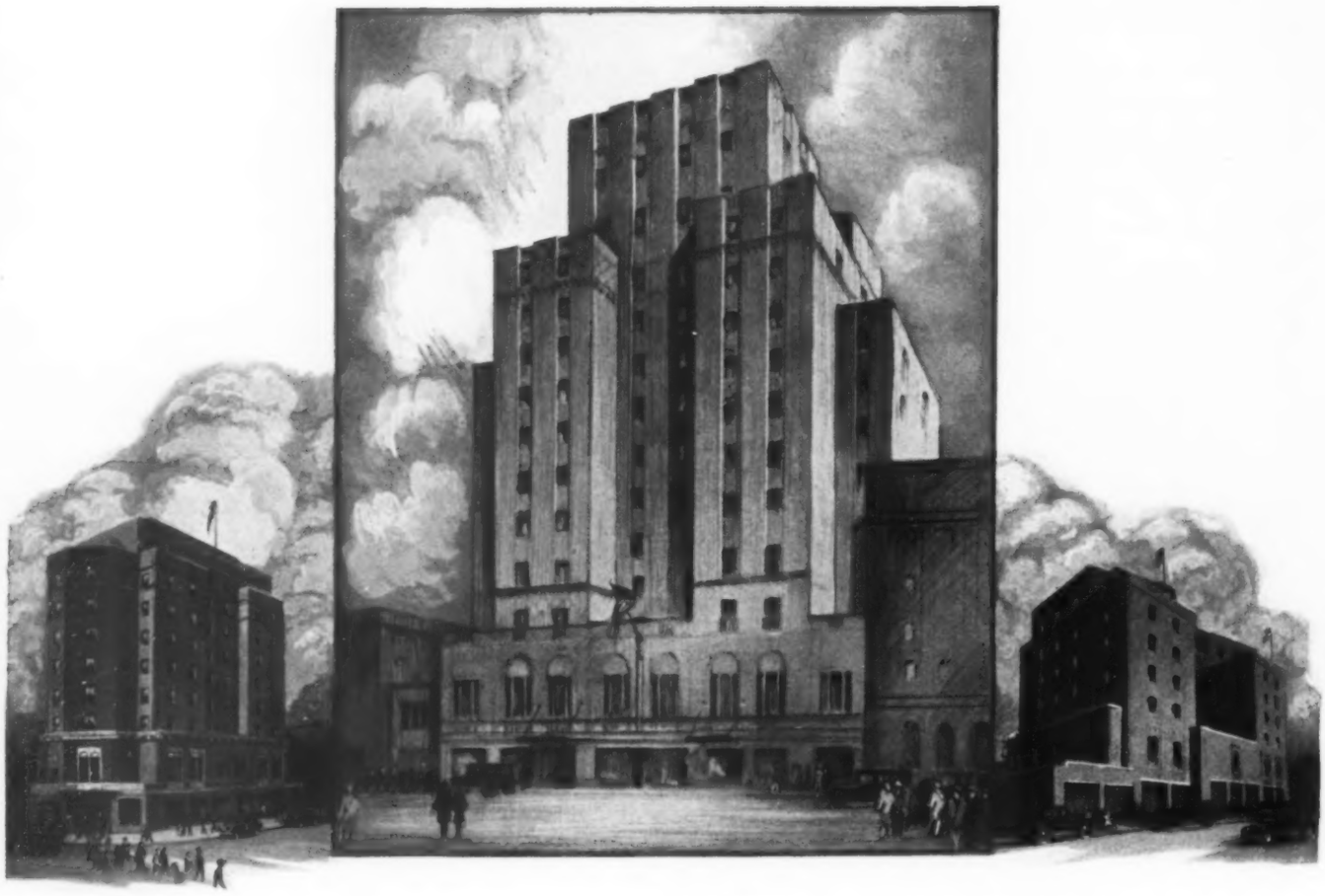

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General Contractor—Wark Co., Philadelphia, Pa.
Electrical Contractor—Beaver Engineering Co., Newark, N. J.

BEACH HOTEL, Bridgeport, Conn. (center)
Architect—Thomas, Martin & Kirkpatrick, Philadelphia, Pa.
General Contractor—Wark Co., Philadelphia, Pa.
Electrical Contractor—Watson-Flagg Engineering Co., New York

WHITE PLAINS BELMONT, White Plains, N. Y. (at right)
Architect—Thomas, Martin & Kirkpatrick, Philadelphia, Pa.
General Contractor—James Stewart & Co., Inc., New York
Electrical Contractor—The Howard P. Foley Co., New York

GENERAL ELECTRIC WIRING SYSTEM

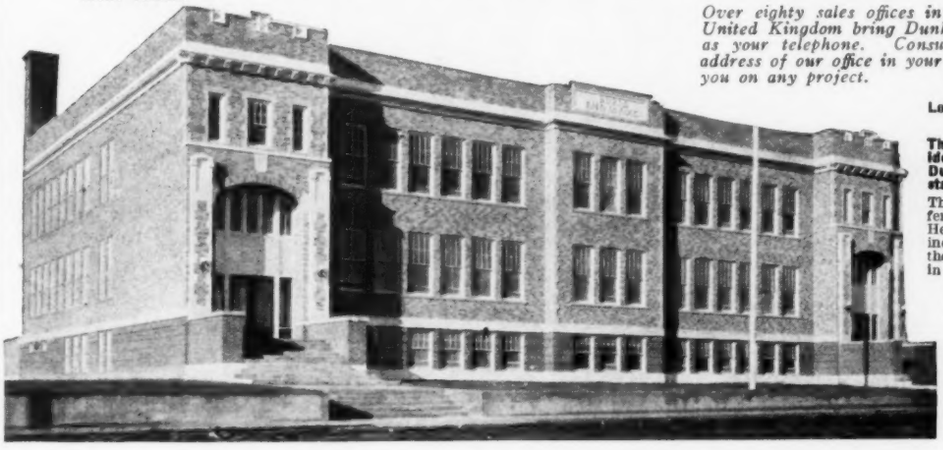
MERCHANDISE DEPARTMENT · GENERAL ELECTRIC COMPANY · BRIDGEPORT, CONNECTICUT

This fine new High School at Burns, Oregon, is heated by Sub-Atmospheric Steam. The heating system is a Dunham Differential Vacuum.

One of the most modern school buildings in Oregon is the new High School at Burns. It contains all of the educational and recreational facilities of a modern metropolitan school, including a gymnasium, auditorium and library, as well as special equipment for manual training, domestic science, etc. The basement of this new school contains the gymnasium, while the auditorium is located on the second floor.

Equipment throughout the Burns High School is thoroughly up to date. It goes without saying that the heating is by means of the Dunham Differential Vacuum System utilizing Sub-Atmospheric steam. The building is located at an elevation of 4,200 feet above sea level and steam pressures and temperatures in the heating system will be varied in accordance with outdoor weather conditions, the steam temperature being controlled within a range of from 133 to 212 degrees, or higher. The entire building, excepting the gymnasium and auditorium, is heated from mains run in the attic. These two large rooms are heated by an upfeed system for which the mains run on the gymnasium ceiling. This method of piping permits the auditorium and gymnasium to be heated separately from the rest of the building, and at the same time keeps objectionable piping out of the basement rooms.

Over eighty sales offices in the United States, Canada and the United Kingdom bring Dunham Heating Service as close to you as your telephone. Consult your telephone directory for the address of our office in your city. An engineer will counsel with you on any project.



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The Dunham Differential Vacuum Heating System and individual parts of the apparatus used in that system are fully protected by United States Patents Nos. 1,644,114 and 1,706,401, and Canadian Patents Nos. 282,193, 282,194 and 282,195. Additional patents in the United States, Canada and foreign countries are now pending.

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Tired—weary and restless—that's why children get into trouble during last hour periods. It's then when teachers are under greatest strain—when children pay less attention to studies and seats are most uncomfortable.

Avoid last hour strain on the part of pupils and nervous strain on the part of teachers by equipping with **National Seats of Comfort** with the famous

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Combination Desk with Moeser Arm Top. Standards finished in durable, baked enamel; woods in National process finish, both in a soft brown color.

In National Desks, equipped with the Moeser Extended Arm, pupils sit squarely in their seats. The back is supported when writing—working space is more than doubled—no turning to rest arm while writing—eliminates facing light and uncomfortable positions that bring on "last hour uneasiness." When writing the arm is supported, resulting in better penmanship. National Desks are shaped to conform hygienically to the human figure—they encourage correct posture—insure greatest comfort—less fatigue—less eye strain—better grades in last period classes and less worry and nerve strain on the instructor.

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Years of collaborating with America's leading educators, together with our own exhaustive research and experiments, have resulted in equipment noticeably superior from the viewpoint of these 10 Major Tests for All School Seating.

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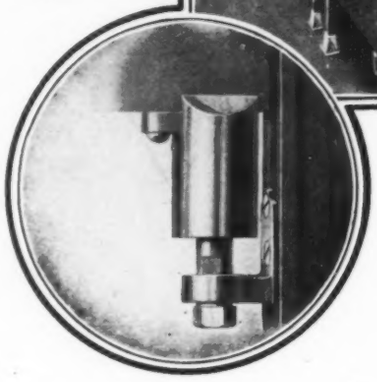
Point 4—A ball bearing gravity hinge that closes door. Will not get sluggish in action and won't wear out. Needs lubrication only once in several years.



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BLOXONEND meets these demands. Here is a flooring that presents an *end-grain* instead of a *flat* or *edge-grain* wearing surface. The hazard of splinters is eliminated and longevity assured. BLOXONEND is fast, resilient, handsome, safe and stays smooth.

169 prominent school specialists—architects who have builded enviable reputations for designing practical buildings and selecting materials of merit—specify BLOXONEND. This in itself is good evidence that BLOXONEND is a *better flooring.*

Any degree of resilience can be secured by laying Bloxonend over floor strips spaced to suit. **Write for sample and specifications.**

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Branch Offices in Leading Cities—See Sweet's

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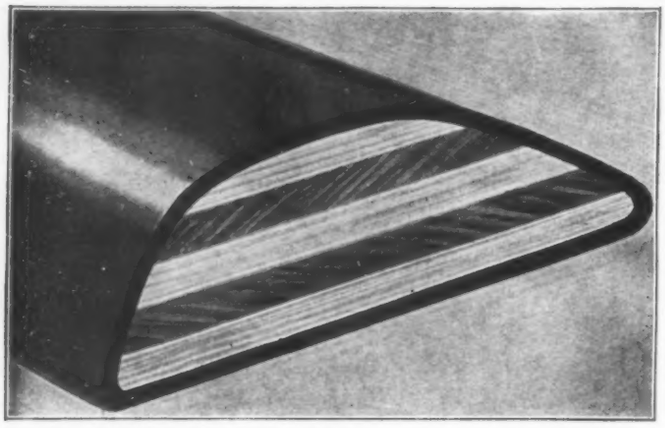
BLOX-ON-END FLOORING

Bloxonend is made of Southern Pine with the tough end grain up. It comes in 8 ft. lengths with the blocks dovetailed endwise onto baseboards

Lays Smooth
Stays Smooth

Non-shatterable Glass . . . . and Whale-Bone-ite use same source of Strength . . .

LAMINATED CONSTRUCTION



Note the Laminated Construction—a core of alternating-grain layers of hardwood—sealed and bonded to the whole by Whale-bone-ite. It is warp-proof and is guaranteed against warping, cracking and splitting.

Many automobile accidents that might not have been serious except for flying glass led to the development of stronger, LAMINATED, non-shatterable glass.

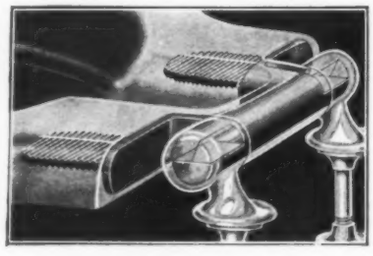
The excessive cost of replacing toilet seats smashed by the slam-bang abuse of the careless public led to the development of indestructible Whale-bone-ite LAMINATED construction—the only construction that can be guaranteed for the life of the building—the only construction that immediately ends all replacement expense.

We and others have tried to make toilet seats as strong, as light and as sanitary by other methods. But it can't be done. Only *laminated* construction can give the abuse-defying strength of Whale-bone-ite—the careless abuse that every public toilet seat receives. Fourteen years and a million Whale-bone-ites in use have proved it. Today, nearly all seats going into public toilets are of laminated construction.

Whale-bone-ite Seats are found quite generally in the guest bathrooms of fine hotels as well as in public institutions where service requirements are severe. Many new apartment houses are equipping all toilets with them.

Send for free cross-section —see its strength yourself

Figures show that on the average ordinary seats have to be replaced about every three years. If you want to end this needless expense, just as it already has been ended in more than a million public toilets in modern and remodelled buildings, simply install Whale-bone-ite Seats as fast as other seats wear out. Not only will the replacement expense end, but the toilets will be cleaner as Whale-bone-ite is easier to keep clean. Without obligation send for a free Whale-bone-ite cross-section. Simply address Dept. **G-7,** Seat Division, The Brunswick-Balke-Collender Co., 623 South Wabash Ave., Chicago.



THE Whale-bone-ite steel hinge is moulded integral with the Seat forming an unbreakable unit. Covered with Whale-bone-ite, the hinge is as handsome as the Seat. It cannot tarnish. It is easy to clean.

Brunswick WHALE-BONE-ITE TOILET SEATS

THE BRUNSWICK-BALKE-COLLENDER CO. Chicago

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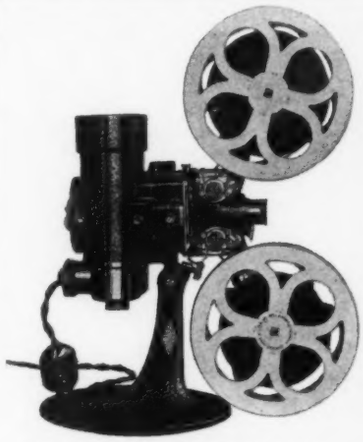
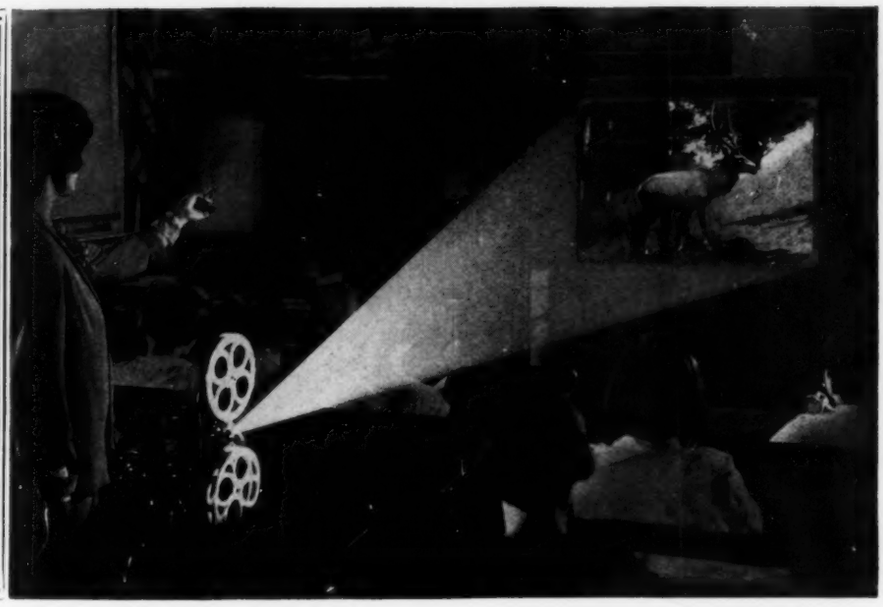
Birmingham	Cincinnati	Harrisburg	Nashville	Pittsburgh	Tampa
Boston	Cleveland	Houston	Newark	Richmond	Washington
Buffalo	Dallas	Kansas City	New Haven	San Antonio	Montreal
Charlotte	Denver	Los Angeles	New Orleans	San Francisco	Ottawa
Chattanooga	Des Moines	Memphis	New York	Seattle	Toronto

Sidney, Australia Havana Buenos Aires



BELL & HOWELL 57E *School Projector with 45-50 Condenser, 250 watt, 5 ampere lamp, geared re-wind and safety shutter. Price, with case, $205. Other models from $190 up.*



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THE true value in visual education is the speed and the clarity with which it presents ideas and facts to the student's mind. Only the finest of motion picture projectors can adequately assure the teacher of the freedom necessary to follow this method of instruction successfully. The slightest interruption because of a complicated projector, or one that needs to be watched, distracts the attention of the class in a measure that is difficult to overcome. With these essentials before them, Bell & Howell engineers designed the Filmo School Projector.

The Filmo School Projector can be stopped on any scene for protracted discussion without danger to the film. It can be reversed while in motion for a review analysis of particular types of action. It can be slowed down or speeded up under perfect control. Set up and in operation in a few minutes time, it runs itself, needing no attention of any kind.

Into the design and the making of Filmo 57E School Projector go the same precision and efficiency which have for 22 years made the name Bell & Howell a standard to measure by throughout the professional movie industry. Its nine-to-one mechanical movement absolutely eliminates flicker, the cause of eye strain. Its powerful lighting system projects pictures of theater-clear brilliance in assembly hall and classroom alike. Mechanically perfect, smooth-running, quiet, sturdy, it is by far the preferred machine for educational use

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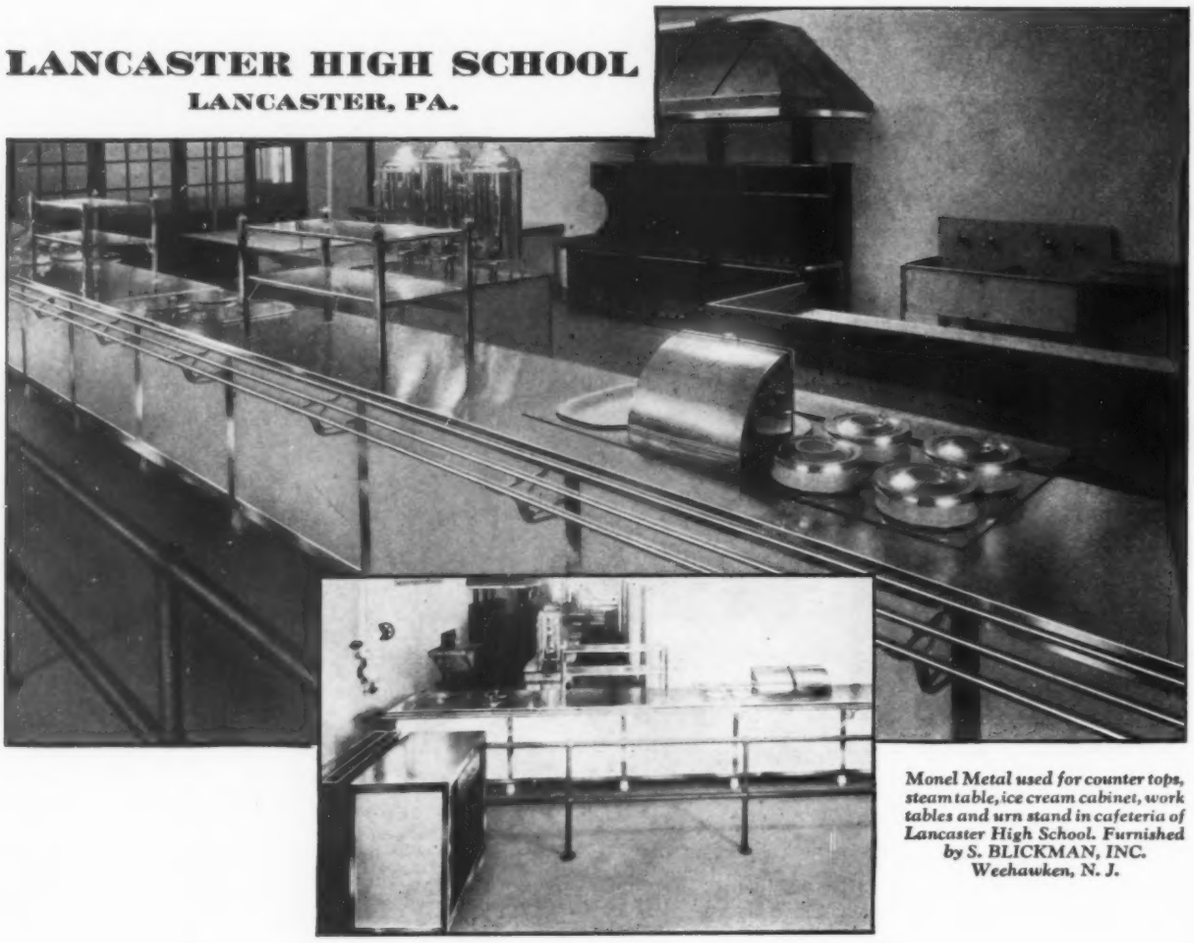
LANCASTER, PA.



Monel Metal used for counter tops, steam table, ice cream cabinet, work tables and urn stand in cafeteria of Lancaster High School. Furnished by S. BLICKMAN, INC. Weehawken, N. J.

Another modern school justly proud of its modern *Monel Metal* equipped cafeteria

COMPLETE Monel Metal food service equipment, because it renders such economical and efficient service, is rapidly becoming an essential requirement for every modern school. No other form of equipment will give greater satisfaction or render longer service.

Monel Metal is always sanitary, attractive and easy to clean. It will not rust. It resists corrosion. With its steel-like strength and chip-proof surface, Monel Metal defies the constant wear and tear of hard use. And its silvery lustre adds beauty, neatness and spick and span cleanliness to cafeteria surroundings.

Before considering new food service installation, don't fail to investigate carefully the many advantages of Monel Metal. Your regular equipment manufacturer will advise you, or you may write direct for further information.

SEND FOR BOOKLET, "MODERN KITCHENS"

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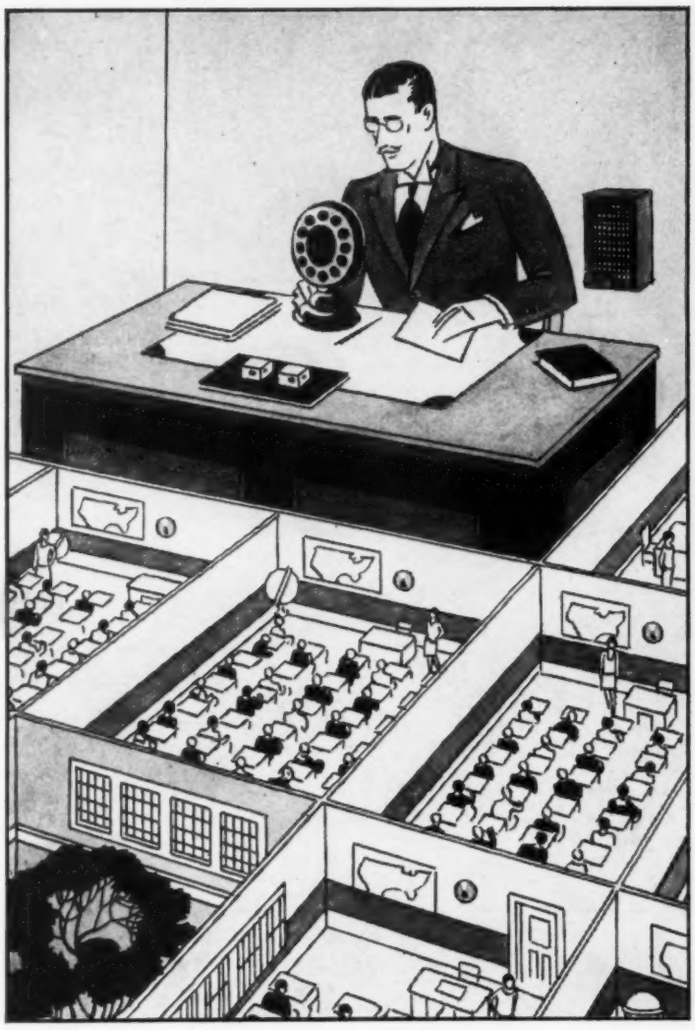
INCO MONEL METAL



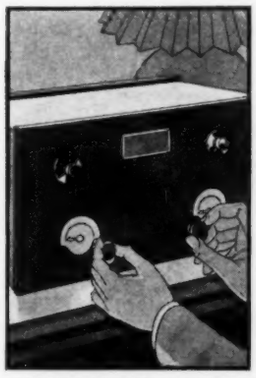
men of the day are the teachers . . . So vast and varied is the scope of the System that its applications can only be suggested here. A wealth of information is to be had for the asking from the distributor of Western Electric products, the Graybar Electric Co., Graybar Building, New York, N. Y. Offices in 72 principal cities.

Exercises and folk dances are given new zest with music —via loudspeaker

The Music Reproducer plays anything on standard laterally-cut records.

—and the distinguished visitor "visits" all rooms at once —thanks to the microphone.

—One school architect says "For fire use alone, it would more than justify itself."



Music appreciation courses— current events — any radio program can be heard by all.

A child's voice can fill any auditorium when amplified as the System permits.

NOW A PRINCIPAL WITH 15 VOICES —a voice in every room

The barriers are down. A principal's voice may now speak in all classrooms at one time. The whole school is a new, flexible, controllable unit, with the magic of the Western Electric Public Address System.

The Public Address System is, in a sense, a miniature "broadcasting" system within a school. It not only distributes sound. It amplifies music and speech originating within the building; or, in conjunction with a radio receiver, picks up radio programs. Its usefulness is endless.

The Public Address System adds some altogether new aspects to education. The world is the schoolroom. The great

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PUBLIC ADDRESS AND MUSIC REPRODUCTION SYSTEMS

Distributed by Graybar Electric Company

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A Modern Door—Sound Resistant—Sturdy in Construction Yet Lighter in Weight—Beautifully Designed—An Ideal School Door

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Interior of the Sessions St. Jr. High School, Showing Flushwood Doors.

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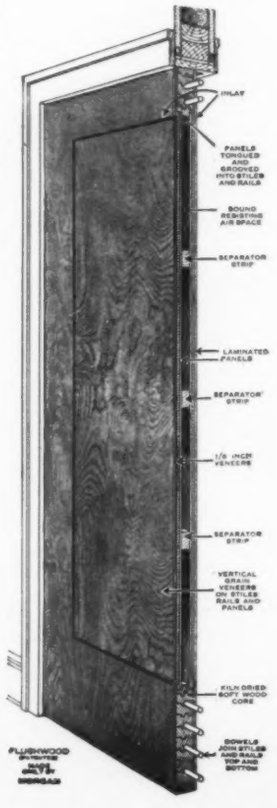
The beauty of its design is recognized as a necessity for the modern school building, which is noted for its architectural correctness.

No matter what the door requirement, FLUSHWOOD will meet it fully and bring, as well, many new features which no other doors can boast.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DOWELS JOIN STILES AND RAILS TOP AND BOTTOM

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TO RIGHT:
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For 39 years McCray has been manufacturing refrigerators. Building to the same high standards. Holding to an unswerving ideal, never compromising in the slightest detail of material or craftsmanship.

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This outstanding service of McCray is strikingly demonstrated with any machine refrigeration or ice. And because efficient, economical service with any type machine, as well as with ice, depends finally upon the refrigerator itself, McCray is almost invariably selected when assurance of dependable service is demanded.

There are McCray models to suit every need, and for every commercial purpose. Send now for catalog and information about refrigerators for your particular n...

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DESKOR CONVERTIBLE CHAIRS REDUCE BUILDING COSTS

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3. The "Converter" becomes a chair occupying the aisle space. The seating capacity of the room is thereby doubled.

Deskor equipment increases the capacity of a school building at least 25%. It saves at least 10% of the cost of a new building. It provides the only way to procure smaller school buildings per pupil.

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NATION'S SCHOOLS
DEVOTED TO THE APPLICATION OF RESEARCH TO
THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

VOLUME IV SEPTEMBER, 1929 NUMBER 3

Identifying and Eliminating the Unfit in Teachers' Colleges

Important considerations are involved in the identification of those students who are unsuited to the teaching service and in the administrative procedures incident to their elimination

By S. A. COURTIS, Professor of Education, University of Michigan

STUDENTS who are unsuited to the teaching service present a problem to administrators in charge of teacher training colleges. This problem, which I shall discuss in this article, has two major aspects—the identification of such students and their elimination from the colleges.

Few teachers' colleges capitalize as they might the information about the student's capacities, tastes and powers that high schools accumulate throughout the four years of the high-school period. In Detroit, the superintendent was convinced on the basis of evidence that high-school principals were not assuming their share of responsibility for the fitness of the students they sent to Detroit Teachers College. So he called the principals together and presented the existing conditions as a problem for them to solve. Their response was immediate and satisfactory. Standards of intelligence, scholarship and character were set up and put into effective operation. Thus, one of the major causes of the difficulties colleges encountered was remedied at its source and the amount of elimination necessary in the college itself was greatly reduced.

The two problems of identification and elimination remain, however, because not all of the students come from the city high schools, and because the standards of selection used by high-school principals are never wholly adequate.

Let us consider the first phase of the problem —the identification of those students who are unsuited to teaching service. I have seen students whom an entire faculty unanimously judged exceptionally fit for the teaching service make a failure of teaching; and contrariwise, I have seen students whom the faculty did all it could to drop from the college and whom ultimately it refused to recommend for a teaching position, win recognition and certification through substitute service and eventually achieve a brilliant success. Nor are these sporadic cases. In scatter diagrams that I have seen showing the degree of correlation between success in college and success in teaching, the scatter has been wide enough to give rise to the conviction that the identification of those students who are unfit for teaching service is difficult, due, no doubt, to the fact that as yet so little is known about what constitutes fitness.

I shall, therefore, confine myself to a discussion of the identification of those who will be judged by the faculty to be unfit for teaching service. As part of a teacher training faculty, I am continually making judgments about the probable future teaching success of the students in my classes. There are really two problems to be considered at this point: (1) "What type of student will be judged by me, and others like me, to be unfit for teaching service?" (2) "Are my judgments valid?"

This memorandum of agreement made the fifth day of June eighteen Hundred and fifty four between Mary Anna Bixby a School Teacher of the one part & Daniel Stephan Robison Doms & Calvin Edson as Directors of Sub District number one Brooklyn Township Cuyahoga County Ohio of the other part.

Witnesseth that said Mary Anna Bixby agrees to teach the public school of said Sub-dist: for the term of Sixteen weeks commencing on the 11th day of June Eighteen hundred & fifty five for the sum of three Dollars per week, said teacher Boards herself. and that for said services properly rendered said Daniel Stephan and Robison Doms & Calvin Edson as Directors as aforesaid are then and there to certify in favor of said Mary A. Bixby for the amount of Wages due her as ascertained by this article of Agreement

Witness our hands

Daniel Stephan
R Doms
C Edson
} Local Directors

Seventy-five years ago teachers willingly signed contracts such as this.

Upon careful analysis I find that judgments as to fitness are based upon a great variety of criteria. The first one is physical perfection. The well built, athletic type of individual, radiating health and vitality, wins favorable notice at once. If the candidate has the good fortune to be beautiful as well, all she needs is the social technique of flirting discreetly with her professor ("appreciating" him), to win unusually favorable mention.[1] Conversely, the individual with any evident physical defect such as lameness or a disfiguring scar is immediately handicapped. Few of any faculty will openly bar the physically disfigured, but many would like to and some of us believe the colleges ought to publish and vigorously maintain a high physical standard for admission.

Physical Examinations Often Required

An increasing number of school systems require a physical examination of candidates for teaching positions. Weak hearts, weak lungs, defective hearing or fallen arches without doubt unfit a person for the exacting demands of classroom teaching. The discovery of such defects ought not to be left to chance observation and subjective judgment. Rigorous and thorough medical examination at entrance, it seems to me, should be the means of detecting and eliminating the physically unfit.

The second important characteristic of students that affects judgment in regard to fitness is general culture. More specifically, it manifests itself as style and taste in dress, refinement in manner, quality in general deportment and range of interest. A good conversationalist dressed in clothes that show care and distinctive taste, who in a tactful, deferential manner responds intelligently to a professor's attempt to treat the individual as a friendly human, is rated high in fitness. The loud speaking, aggressive boor, the timid, bashful recluse, the stiff, awkward foreigner and all who offend and annoy, rate low.

It is my conviction that the discovery of these matters ought not to be left to incidental observation and subjective judgment. During the first semester, every freshman should appear before a committee of three faculty members for a formal oral conference. Previously, the faculty should have set up for itself standards of judgments in these matters, standards expressed in terms of a human scale of students in the upper classes, known to those on the committee. The students who appear for conference should be given an opportunity to discuss some professional problem on which they are prepared and should also be asked questions about other professional matters on which they are unprepared. The items of observation should include dress, manner, personality, speech and general culture. The conference need not last long but the judgments of the three observers ought to be recorded independently and summarized by some person not a member of the conference. In this way, judgments may be reliably made and freshmen below the minimum standard may be identified.

A third important set of qualifications are emotional instabilities of various sorts. They are easy to mention but hard to detect except by actual contact with students in situations involving stress. The hysterical, unbalanced student, the student with an excessive inferiority or superiority complex, the antisocial individual who cannot get along with anyone and the student who exhibits extreme emotional irregularities, all are truly unfit to teach. Not much has been done by way of measurement in this field, but I believe much is possible. The most effective means I know for identifying such cases is to require that every student participate in some social club or activity in the college life, and to have systematic reports made by the officers of such activities on all who do not do their part successfully.

The next qualification is one of vital importance—intelligence. Many colleges giving intelligence tests have found that there is a level of score below which the probabilities of successful academic work are so low that nonadmission is justified. The border line cases, those just above the criterion level, should be admitted on probation and their work carefully checked during the first six months.

Admits No Limitations

I do not belong to the mechanistic, fatalistic school that regards intelligence as something fixed and unalterable. In my judgment, the I. Q. measures, not possible achievement but rate of growth, and is readily modified by anyone who knows how to influence the individual in such a way as to release his latent talents. On the one hand, I hold "by faith" the extreme view that any individual, by virtue of his human nature, is potentially able to be and to achieve all that his heart may desire. Theoretically, I admit no limitations whatsoever on the powers of the human spirit. On the other hand, as a practical school man and as a scientist, I am forced to admit that under ordinary conditions the I. Q. is remarkably stable and that my knowledge of how to change the I. Q. is very small.

My faith is that of a sentimentalist and my behavior that of a determinist, but with this differ-

[1] This is one of the popular fallacies that it pleases the public to believe, and it does no one any harm. So let it run.—Editor.

ence: I recognize the fact that certain individuals grow so slowly and have achieved at the time they apply for college entrance such a low level of development that it is inexpedient even to give them a chance to fail. But I also call such action on my part an admission of my incompetency and ignorance. I never give up trying to help the border line cases and little by little I am remedying my ignorance. One of these days when I have grown wise enough I expect to be able to transform all the 60 and 70 I. Q.'s into 90 and 100 I. Q.'s or perhaps even higher. In a word, I side with Bagley in this matter and not Terman. The intelligence test is a valuable tool in the identification of the unfit provided it is used as a tool and not as a magic substitute for human sympathy and common sense.

Academic Success Necessary

The fifth qualification is academic success. Most of us already make and collect adequate records in this line. Indeed, on the average it is the chief, and frequently the only criterion on which judgment as to fitness is based. College professors make too little use of standard tests in their work. A great many fool themselves completely by their systems of marking and grading. Few college professors have had any thorough training in either the use or the construction of tests and scales. We could, however, learn to use new inventions if we cared to. And perhaps if we did some learning ourselves, we might be in a frame of mind to understand more sympathetically than we do how our students feel about their learning tasks.

With regard to entrance standards, it is a simple matter to determine for reading, writing and arithmetic and other fundamental skills the level of development attained by those who seek to enter our colleges. It should be done by high schools before making their recommendations but if it is not done by them, it ought to be done by the college itself. The real source of difficulty, however, seems to me to be that the college faculties have seldom determined what level of achievement is essential. As a class, college teachers are open to severe and merited criticism because they have not conducted those scientific investigations that would make it possible to define the essentials of academic fitness in terms of scores in standard tests.

The sixth cause of unfitness is moral deficiency. The liar, the thief, the sex delinquent and other morally abnormal individuals do get into our colleges and, of course, hidden tendencies do develop occasionally during college years. Student advisers help greatly in locating such cases, and if moral ideals are emphasized by the college, the students themselves soon take over, consciously, the responsibility for identifying the morally unfit.

The last element of the unfitness classification must be a catchall for what is left. It should include such cases as the girl who wants to be a doctor but whose parents insist on making her a teacher, the girl who falls behind because of sickness or trouble at home, the girl who becomes so interested in parties, beaux, dress or society that she simply ignores her college obligations. Such cases are few in number and for the most part easily detected.

Under ideal conditions the most significant criterion of all would be the degree to which an individual had developed professional vision and spirit. Our high-school teaching has failed so completely, however, that students come to us with little knowledge of what it means to assume obligations and to think in terms of professional problems. This is so true that I did not even include professional vision in the list of practical criteria although I sincerely believe it is the most important of all. Tell me the breadth of a candidate's vision and the strength of his purpose, and I will guarantee to predict with almost perfect reliability his ultimate success.

With regard to criteria of fitness, there are those who are sure to ask, "Which set is the best?" That question cannot be answered at present. The need of the hour is for a scientific method of determining the validity of such judgments. The training department of Detroit Teachers College is developing experimentally a technique for measuring validity. It is a small, narrow experiment, but it is significant. Therefore, although it is unfinished, I shall give an account of it here.

Test Teaching Ability

In February, 1928, twenty girls were selected from the entering high-school graduates. Within the first three weeks of their course, and before they had received any instruction, each girl was given twenty-five difficult words and a fifth-grade class and asked to teach the children to spell the words. She was given five days to do the job and allowed fifteen minutes each day. She was given no directions. Her work was carefully observed and recorded. The children were also given an initial test and a test after each day's teaching. The children's individual rates of growth were determined, as well as the averages for each class.

In September, 1928, after one semester of academic college work, as many of the same girls as remained in college were asked to repeat the at-

tempt to teach the same words to new fifth-grade classes. In January, 1929, the experiment was repeated. It will continue to be repeated at the end of each semester until the girls are graduated. We shall thus obtain a record of the improvement in ability to teach twenty-five words in spelling to fifth-grade classes caused by each semester of training.

So far the girls have had only a year of academic work, but the general trend of the results is interesting. However, my statements are not conclusive since I am reporting only the gross results. The conclusions may need radical revision before the experiment and the various controls that are being proved necessary are finally completed.

Results Show Great Differences

There were three significant results. First, the girls differed greatly in their initial teaching ability. The best one did three times as well as the poorest one. That is, it would have taken the poorest girl forty-four days to teach the twenty-five words so well that every child would have spelled every word perfectly, but it would have taken the best girl only fourteen and seven-tenths days. On the average, the girls on entrance would have required twenty-four days for the job.

In another experiment, it was found that the children, working on their own initiative, learned at a rate that would have required but nine days to complete the task. The results, therefore, seem to me to prove that the girls have a great deal to learn about teaching. Will their professional training give it to them?

At the present time the girls have had two semesters of college work. At the end of the first semester they did not do quite as well as on the initial test. The time required changed from twenty-four days to twenty-six and five-tenths days. At the end of the second semester, after nine hours of education and twelve hours of academic work, their ability had increased approximately one-fifth. That is, the days required to teach the words perfectly fell to twenty days. The tests in June will be the interesting ones. The girls will then have had fifteen hours of professional training. Will it be effective and to what extent?

The significant things, however, are not the results, but the techniques. We have here a method which when it is developed and expanded we can use to validate our judgments. If we rate the girls, will the one we rate highest actually do the best teaching?

Turning now to the problem of elimination I shall discuss it under two headings: (1) the philosophy of elimination and (2) the mechanics of elimination.

A teacher training institution has three sets of responsibilities and the program of elimination must maintain a proper balance between them. In the first place, the institution is obligated to protect the interests and rights of students and parents against unwarranted elimination. A student has a right to expect maximum aid from the institution and maximum opportunity to make good. The college must not eliminate except when it has convincing proof of unfitness.

In the second place, the institution must protect faculty members from wasting their time trying to teach students who are incapable of profiting adequately by their efforts. No judgments as to the competency and efficiency of the faculty ought to be made unless the truly unfit are eliminated.

In the third place, the institution must protect society from the waste caused by incompetent teachers. A college whose graduates are not reasonably competent is a failure. The injury done to an individual student by unjust elimination is almost infinitesimal when compared with the harm done the children by an incompetent teacher.

As a measurement man, my point of view is that elimination on the basis of invalid judgments may be more injurious than no elimination at all. Therefore, for the present, we need to realize that while some elimination is vitally necessary we must proceed cautiously. If we err at all, we ought to err on the side of basing elimination on too much evidence rather than on too little.

Elimination Program Outlined

Here is my program of elimination which experience has proved to be practical.

As soon as the faculty begins to suspect that a student is a possible candidate for elimination, it should collect all the evidence from existing records, and present the evidence to the student for an explanation and a plan for improvement. This puts the matter squarely up to the student. Then, it should have the student write out, date and sign the plan for improvement that he suggests. The plan should include: the student's admission that his work is unsatisfactory at present; a diagnosis of his difficulty; a request for the types of assistance desired; provision for appraising the success of the scheme and most important of all, a not too distant time when judgment is to be passed.

The faculty should give to the student the as-

sistance asked for and make a detailed record of what it does. Also it should take such steps as it judges are best, making the necessary records. A faculty adviser should be assigned to make a case study of the individual and to determine as far as possible the cause of the trouble. If the student is fundamentally unfit, an attempt should be made to find some position for which he is fit.

At the close of the probation period if the student is still unsatisfactory, he is presented with the evidence and again asked to leave. If he asks for another trial, he is told to bring his parents or guardians. It is important that the faculty know with whom it is dealing. It will not do to wake up too late to the fact that the unfit individual is the niece of the mayor, or the protégé of the president of the board. I do not mean that such relationship should make any difference about the eventual elimination but it will make a great deal of difference in the need for conclusive evidence. Besides, frequently much important information about the case is gained from these interviews.

Sometimes Allowed Another Chance

If, at this time, all the evidence has been gathered, the remainder of the campaign can be planned accordingly. Elimination may be attempted at this point, but if the student makes too strong a plea, or puts up a promising plan or has backing that makes the evidence inadequate, the faculty should yield to his importunity but have him and his parents sign a second warning slip, stating the facts and promising that the student will leave voluntarily if he does not make good within the given period. Almost any written promise or statement can be secured from those who are asking favors.

During this second period of probation extensive detailed records, suitable for court use if necessary, should be kept to prove that the college has given every assistance possible and that the student is unfit. If the student still remains unfit the time has come for action. If the institution has the power, it should now exclude the student. If it does not have the power, it should transmit a recommendation for exclusion together with the accumulated evidence to the next higher authority.

No teacher training institution may safely shirk for long its responsibility for the identification of the unfit and their elimination. Objective standards of fitness, intelligent accumulation of evidence and, above all, true service to the student make elimination of even the mayor's daughter not only safe and relatively easy but meritorious as well.

The Unified Six-Year School or the Segregated Three-Year School?

Which is the better, the unified six-year school or the segregated three-year school?

In seeking to answer this question Calvin O. Davis, professor of secondary education, University of Michigan, compiled judgments expressed by 100 superintendents, principals and educators at present directly connected with one or the other of these types of institutions

Segregated Schools Favored

The replies indicated that theoretical considerations favor the segregated three-year schools wherever possible, but that practical considerations make the adoption of the consolidated six-year school desirable, if not indeed necessary, in many places. The greatest objection to the six-year school is found in the age span of the pupils who must attend it. Children of twelve years of age find little in common with youths of eighteen years of age. Further, the very forces of tradition and of administration tend to key the schools to the interests and capacities of the older groups of pupils. In consequence, in the six-year schools the younger children are not given the individual attention that their natures demand.

On the other hand, with school systems that enroll fewer than 300, 400 or 500 pupils in the upper six grades there are real economic and real educational advantages to be derived from the consolidated plans of organization. There is a saving in expense in buildings, equipment and general administration. It makes possible an enriched program of studies and a wider range of extra-curricular undertakings. It guarantees an integrated course of study. It frequently permits of the employment of better trained teachers than the segregated plan will warrant. It permits of instructional supervision in a manner not secured under other plans and it centers responsibility over larger units of work.

Combined Classes Often Necessary

College professors of education who have studied the problem both theoretically and practically are, for the most part, in favor of the segregated schools. For them, the psychological and sociological considerations pertaining to early adolescents outweigh most considerations of a monetary kind. Nevertheless this class of analysts recognizes that for small districts the segregated unit is an impossibility. Hence they likewise assent to the dictum: "Segregate if you can; combine if you must."

A Plea for Research Into Our Military Training

By WILLIAM G. CARR, Assistant Director, Research Division, National Education Association, Washington, D. C.

CONTROVERSY over the values of military training in schools is of long standing. Furthermore, there seems to be little hope of settling the dispute as long as the present methods of discussion are continued. There has been a revival of interest in the military training issue during the past two years and many articles—persuasive, dogmatic, and even acrimonious—have appeared.[1] Two issues are involved:

(a) Is military training in schools necessary from the point of view of the needs of national defense?

(b) Can military training in schools be justified from the educational standpoint?

The present article deals primarily with the second of these two issues. However, it is futile to attempt an addition to the already voluminous recent literature on that subject. The question of the educational value of military training will never be settled to the satisfaction of anybody until both sides abandon their philosophical and sometimes vituperative arguments and attempt instead to discover and synthesize a few pertinent facts. In other words the time for argument is past and the time for research is long overdue. So far as is known, few research studies on military training have yet been made. Nor have any extensive data of an objective nature been published on its educational values or lack of values.

Strange, that in the full sweep of objective measurements and scientific curriculum building, military training has been so neglected. In a word, the problems surrounding the military training issue need to be studied by those techniques that have proved so useful in the study of other school subjects. This article presents a tentative outline of the direction that such research should take.

First, there should be a systematic collection of authoritative opinion as to just what the term, "military training," ought to include. At present, according to some of its proponents, the subject apparently includes everything from toothbrush drills to horsemanship and embodies all the virtues from implicit obedience to daring leadership. The need for definition is obvious. To secure an authoritative and functional definition of military training will be an advance towards a solution of the educational problems that it presents.

Second, there is need for a similarly authoritative development of the objectives of military

[1] Some of the more recent contributions to the discussion are: Allen, W. C., Preparedness and High Schools, School and Society 20: 396-8, September 27, 1924; Barnes, R. P., Militarizing Our Youth, Commission on Militarism in Education, 387 Bible House, Astor Place, New York City, 1927; Beman, L. T., Military Training Compulsory in Schools and Colleges, Reference Shelf, Vol. 4, 1926, H. W. Wilson Co.; Carr, William G., Education for World Citizenship, Chapter VII, Stanford University Press, 1928; Chambers, Merritt M., Every Man a Brick, Public-School Publishing Co., 1926; Coe, G. A., What Do Professors of Secondary Education Think of Military Training in High Schools? School and Society 26: 174-8, August 6, 1927; Flaccus, Quintus H., II. Military Training as a Panacea, School and Society 27: 207-8, February 18, 1928; Gignilliat, L. R., Arms and the Boy, Bobbs-Merrill, 1916; Jones, R. G., Military Training in the High Schools, Educational Review 65: 241-2, April, 1923; Lane, W. D., Military Training in Schools and Colleges of the United States, Commission on Militarism in Education, 387 Bible House, Astor Place, New York City, 1926; Lockhart, A. W., Preparedness and High Schools; Reply, School and Society 20: 536-7, October 25, 1924; Massachusetts Commission on Militarism in Education, Boston, Military Training in the Schools and Colleges of Massachusetts, 1926; O'Shea, M. V., Educational Opportunity of the Military School, The Nation's Schools, 2: 53-6, September, 1928; O'Shea, M. V., How Boys Are Benefited by a Military Régime, The Nation's Schools, 2: 35-7, October, 1928; Should Military Training Be Compulsory? The Nation's Schools, 2: 35-8, September, 1928; Walker, E. A., Making a Man of Him, Educational Review 74: 34-8, June, 1927.

training. These should be stated so as to avoid the facile generalizations of past discussions. It would be useful to know as exactly as possible what changes military training tries to bring about in those upon whom it operates; what habits it seeks to initiate, to strengthen or to break down; what specific items of knowledge it seeks to impart; what manual or other skills it helps the learner to acquire; and what ideals and attitudes it incorporates into the learner's mental and emotional make-up.[1]

Third, the objectives of military training need to be compared with those of education as a whole, with the objectives of other fields of study and with the practices now in vogue in teaching the subject itself. If inconsistencies appear they should be noted and studied with a view to their removal. Undesirable overlapping in aims may likewise be discovered. Methods of adjustment should be sought where such undesirable overlapping in aims occurs between military training and some other subject of study.

Measure of Success Necessary

Fourth, there is a real need for a measure of the success of instruction in military training in attaining the objectives that are claimed as its goal. If there are any objective standards of efficiency in military drill let them be rescued from obscurity and put to use in military training schools and classes. If there are no such standards, let them be derived and let their reliability and validity be determined by the methods already worked out for the construction of tests and scales in spelling, reading, arithmetic and other school subjects. Until such tests are derived, it will remain impossible to judge the effectiveness of military instruction. When they are derived many interesting possibilities for research will be created.

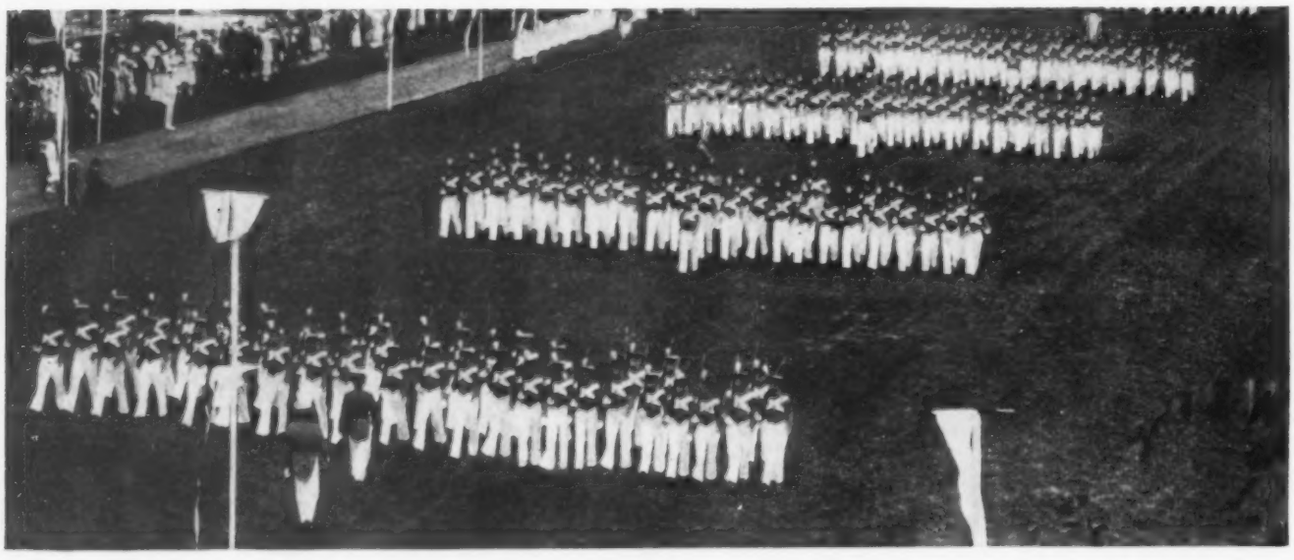
Determination of the relative effectiveness of different methods of military training, the difference in the extent to which compulsory and voluntary military drill succeed in attaining military attitudes, the degree of rapidity with which military instruction is forgotten, the most favorable conditions for either the retention or obliviscence of ability in military drill and the degree of correlation between success in military drill and success in other school subjects, these are only a few of the alluring research problems which, however, await development of a measure of military efficiency before they can be approached.

Should Study Effect of Drill

Fifth, we need a competent study of the effect of ordinary military drill on the health and physique of children. Proponents of military drill in the schools claim that it improves posture, increases vital capacity and generally improves and conserves the physical well-being of those subjected to it. Others claim that military drill for school boys is physically harmful. Who is right? Are both right? And if both are right, under what conditions is the position of each one justified? These appear to be simple questions of fact, and yet where shall we turn for an answer to them and similar questions?

Paralleling the study of the physical effects of military training we should have a study of the effects of military training on the mental health of the school children who are subjected to it.

[1] An interesting method of approach to this problem is suggested in George Bradford Neumann's A Study of International Attitudes of High-School Students, Teachers College, Columbia University, 1926, pp. 82-83.



The photograph above shows school pupils, members of military training classes, as they appear on the parade ground in review.

Another school parade ground showing horse troops.

In connection with such studies, the desirability of adequate control groups should be strongly emphasized. Enough cases should be secured to make the conclusions valid. After thorough initial examination and measurements these cases should be divided into control and experimental groups and a rigorous experiment conducted in accordance with scientific and statistical procedure.[1]

Sixth, we need a study of teachers of military training. We should know what preparations these men have had for the instructional side of their work; what their status is among their colleagues on school and college faculties; on what basis they are selected; what are their salary and expectancy of tenure.

Seventh, we need a series of comparative and historical studies in the field of military training. It would be useful to have available in compact and authoritative form a statement of modern practices in regard to military training in schools in the various countries of the world. We could also profit from a history of military drill as a school subject in the United States. It would be interesting to know more about topics such as how and by whom the subject was introduced, how its popularity has varied in past years and the rôle private enterprise in the form of private military academies has played in its development.[2]

Eighth, a study of administrative practices in regard to military training would be of immediate practical value to school superintendents and principals. Furthermore, such a study would incidentally furnish valuable information as to the extent and popularity of military training in public and private schools of this country. The study should include such matters as time allotment given to military training, the hours in which it is scheduled, bases of excusing certain pupils where the course is practically compulsory for all, and management of the extra-school activities of the military training class in parades and civic festivals.

Finally, we need a series of studies of the pupils who elect military training in those schools or courses where the study of military science and tactics is not compulsory. It would be useful to know how these pupils compare in such traits as intelligence, interest in athletics and scholarship.

This is an ambitious program and it is not proposed as a project to be completed in a day nor even in a decade. But when one observes the steady progress that is being made in evaluating other subjects of the curriculum, one must be optimistic as to the possibility of similarly evaluating the subject of military training. Whether military training should be made compulsory, voluntary or whether it should be omitted entirely from the curriculum is a question upon which certain facts, not now available, would shed much light. This article has sought merely to outline the general nature of the facts that ought to be available on so important and so controversial a question.

[1] An outline of these procedures is not germane to the purpose of the present article. See, for further guidance in this field, William A. McCall's How to Experiment in Education, Macmillan Company, New York, 1923. 281 pp.

[2] See Merritt M. Chambers' Every Man a Brick, Public-School Publishing Co., 1926, pp. 1-34.

How the Parent-Teacher Group May Help Forward the School Program

P.-T. A. leaders should prepare their year's program with a view to securing the cooperation of the adult members of the community in plans to make the educational system more effective

By J. E. BUTTERWORTH, Professor of Education, Cornell University

WHETHER the superintendent of schools finds the parent-teacher association a help or a hindrance depends, of course, upon what the organization does. If it persists in attempting to dictate to the board and to the superintendent what educational policies should be adopted in the community, a serious problem is created. Fortunately, there is evidence that the various local parent-teacher groups are educating themselves on this question. The National Congress of Parents and Teachers has stated its policy on this in no uncertain terms.

If the association makes undue demands upon the teaching staff for aid in giving parties or in preparing special programs for the regular sessions, other problems are created for the superintendent. If it devotes itself largely to entertainment, the association is creating a problem for itself, because it will not long be able to hold the interest of that group of citizens—in some communities a fairly large one—that is seriously concerned with educational progress.

Not Representative of Real Worth

But organizations with such policies as those just described should no more be accepted as showing the possibilities of what the parent-teacher association may be than should the old type of "textbook school" be accepted as representing the modern school at its best. I have had several years' contact with the parent-teacher association as a member, as an officer, as a professional school man and as a critical, yet sympathetic student of its activities. It is my judgment that in those cases in which the association interferes in school control, makes unreasonable demands upon the energy of teachers or devotes itself largely to entertainment, it is because the group does not see clearly what it might do in forwarding a constructive educational program.

There is evidence that parent-teacher leaders are growing rapidly in their insight into the real opportunities of their organization. If this continues a great improvement in the constructive influence of the association is to be expected. Superintendents and other professional leaders may do much to develop this greater insight in those cases where it may be needed. If the school could have the understanding support of even half the adult members of the community, the educational system would be more effective.

Suggestions for Programs

For these reasons I am listing here a series of tentative principles for the making of a program for parent-teacher associations. They are presented for discussion in the expectation that such consideration will lead to modification. Many of these principles are already generally accepted by the progressive members of the teaching profession, although they are not always recognized as applying to the problem that is considered in this discussion. Partly because many of the ideas are familiar and partly because of the need for conserving space, these principles are set down in outline form.

I. Objectives should be established.
   1. A parent-teacher association, like any other organization, exists for certain purposes. A formal statement of those purposes will enable members to direct more effectively their activities to the achievement of those purposes and will stimulate a critical study of them that might otherwise be accepted merely because of tradition.
   2. Since, so far as is known, only one attempt has been made to set up objectives of parent-teacher associations on a scientific basis, the results of that study[1] will be accepted tentatively. The objectives set up as a result of the study are:

      To give association members an understanding of the objectives and methods

[1] "The Parent-Teacher Association and Its Work," J. E. Butterworth, The Macmillan Company, New York.

of education. Clearly a parent can aid the proper development of the child if he understands modern educational ideals in general and the work of his child's school in particular. Hence, parents may be taught such things as the meaning of an education for growth and of an activity curriculum or the place of extra-curricular activities.

To teach members to apply those objectives and methods to the out-of-school environment. The parent who realizes that any experience may be educative is likely to take more seriously his opportunities as a teacher in the home. If he understands the psychology of habit formation he may do much to develop habits effectively.

To give to school officials, under certain conditions, judgment as to where the school fails or succeeds. This may be easily abused, yet a parent who sees that his child cannot work arithmetic problems accurately has the right to expect that the school officer will receive in the right spirit any friendly suggestion concerning this weakness.

To facilitate acquaintance among parents and teachers.

To aid in educating the community as to desirable aspects of the school's program: explaining the need for a new school building, introducing a new curriculum into the high school or instituting some activity elements.

Funds Should Be Limited

To raise funds under certain conditions. In general an association should not raise funds for school purposes except to demonstrate the value of a new phase of school work or to supplement the tax in a community that is too poor to finance a reasonable school program.

3. It is important that there be continued study of the objectives of such an organization. Social needs may change and a new organization may develop to deal with certain objectives now deemed desirable for the association.
4. It is especially important that attention be given to this problem for a time. The study of objectives deals with the general association. Further study is needed to establish clearly the functions of a preschool association or of a high-school association. Some limitations in this study may be overcome. For instance, a study of associations that have gone out of existence may throw much light upon the relative value of objectives.
5. The relative importance of these objectives will vary from community to community and from time to time in the same community. For instance, in a wealthy community the raising of funds would be unnecessary. In an extremely poor community it might be desirable.

Attainment of Objectives

II. The program is the means of attaining objectives.
   1. The entire program of the association should be directed to the attainment of the objectives. The entire program consists of: (a) the regular meeting, which often includes papers, talks, addresses, demonstrations and discussions of topics that fall within the accepted scope of the association's objectives; (b) the business session, devoted to a consideration of ways and means of achieving the objectives of the association, including the proper financing and development of the organization itself; (c) activities, directed through officers, committees or the entire organization, toward effecting such changes in educational conditions as are considered desirable. These activities need to be thought of as a unit. Often they have not been properly coordinated.

III. Suggestions that may be helpful in building the program.
   1. The meeting of needs is the basis for action. A parent-teacher association, therefore, will find the key to an interested membership and a useful program in the needs that face the particular community it aims to serve. It should, in general, confine itself to those needs that are within the scope of its accepted objectives. There is danger that the parent-teacher association may try to cover too wide a field.

      Some educational needs are obvious and require only statement to have their importance recognized and accepted. However, specific data are often helpful in emphasizing their importance. If we had specific data about what our children read, we might appreciate more fully the necessity of wise guidance and of making worth while reading materials available.

      On the other hand, other needs are of

such a character that the research activities of highly trained specialists are required properly to locate and to define them: What, for example, is the value of the Schick test? What should the schools teach in arithmetic?

Still other needs may be discovered by the alert person with common sense. The needs may include a study of playground facilities, wise use of leisure hours and home study conditions.

The necessary study may be made by a special committee of the association which should consult freely with the principal or superintendent. This committee may utilize data collected for another purpose. Its function is then to organize the material for presentation to its own group. For example, a recent report on medical inspection in a New York county giving data regarding health deficiencies and conditions under which the medical examination is given, would suggest a whole year's program for a parent-teacher association.

The committee may collect data through its own efforts. Several local associations in New York are this year studying problems in the wise use of leisure hours in their communities as a basis for making their programs. The data having been collected, the facts should be so organized as to show the degree of seriousness of the need and to define needs to be met.

2. The program then should be built around these needs.

Needs Should Be Considered

The regular meeting should give opportunity to present the needs, to develop an awareness of the members regarding them and to consider ways and means of meeting them. The business session should consider the business aspects of the matter such as the appointment of committees to deal with the problems and the financing of these activities as well as the forwarding of the entire program of the association. Committees, officers and other individuals may then carry on such activities as will bring the changes desired. For example, if a study shows the need for better playground facilities, special groups may confer with city or school officials to decide what facilities are needed or how funds may be raised.

3. There is a danger that state or national programs will not deal with those problems that are most pressing in local communities at the time.

There are some large problems, such as health, that are so common that a state or national program is often useful. As a rule, however, these organizations can be most helpful by showing the importance of using sound principles of program making, by giving detailed suggestions of procedure, by publishing examples of good program planning and by stimulating interest in this activity.

Diffuseness Should Be Avoided

4. Since it is the remedying of situations considered educationally undesirable that is the primary concern of the association, it is important that the year's program be directed toward a few rather than many needs. Diffuseness in discussion and activity is perhaps one of the most serious weaknesses in program planning.

The element of continued interest of members in the problem should be recognized. It is well not to tire the members with one subject. Account should also be taken of the fact that some reforms, requiring the changing of a person's ideals, should not be pushed too rapidly.

5. Accepted principles of good teaching should be employed in putting the program into effect.

If the needs are genuine the first step to the development of motive has been taken. This is the first step in good teaching.

Participation should be carried as far as possible: A "discussion" is better, other things being equal, than a lecture; a demonstration is better than a description. If possible every person should be given something to do. In the arrangement of the program it should be recognized that entertainment in reasonable degrees has a legitimate place in maintaining interest.

IV. The results of the program should be appraised.

1. An evaluation of the successes and failures is necessary to intelligent progress. Some rating scale is therefore useful.[1] Such an evaluation of the year's work may be made either by the association as a whole or by its executive committee.

[1] One such evaluation may be found in "The Parent-Teacher Association and Its Work," pp. 113-122.

The School Administrator's Part in Making Pupils Healthy*

The Bellevue-Yorkville Health Demonstration furnishes an excellent example to superintendents of what they may do in improving the well-being of the pupils

By NINA B. LAMKIN and MARY E. DUPAUL, Supervisors of Health Education, Bellevue-Yorkville Health Demonstration, New York City

THE development of a health education program in the public and Catholic schools in the Bellevue-Yorkville demonstration area, New York City, is one of the major services of the demonstration.

The demonstration has given to the schools two supervisors of health education, one for the thirteen public schools and one for the twelve Catholic schools in the district. Working with the boards of education, the department of health, the public and Catholic-school principals, teachers, doctors and nurses, these supervisors are assisting in the development of a health education program that is designed to be a permanent, practicable and effective feature of the school curriculum. The outcome, it is hoped, will be healthy, happy pupils and teachers, in a healthful school environment.

The plan of service in both the Catholic and the public schools in the district has been essentially the same. Before the health education activities were begun, an appraisal was made of the conditions and problems in each

* From the Milbank Memorial Fund Quarterly Bulletin, July, 1929.

Courtesy Milbank Memorial Fund

These children are interested in health education through actual demonstration of the foods they should eat.

school, such as the health services already available, the amount of health teaching already being done, the interest of the principal and teachers in the correction of defects and the needs of each school.

Conferences were held with district superintendents, principals, teachers, doctors and nurses, and each one was asked to contribute ideas and to cooperate in the development of a uniform program and policy relating to the school health education program. As a result of the early friendly contacts that were established, health education has developed as a cooperative enterprise and from the start it has been considered as an influence that surrounds and enters into all of the work of the day, determining habits and influencing behavior, rather than as a separate subject to be taught in the twenty-minute weekly period. The hygiene of the school room including temperature, lighting, ventilation, orderliness and cleanliness was one of the first considerations in the program.

Any measure of the effectiveness of an educational experiment in a public-school system must take into account the attitude of the board of education as the experiment progresses. The board of education of New York City has been interested from the beginning, and has at all times expressed its approval and appreciation of the work being done in the schools. In January, 1929, a year and a half after the beginning of the demonstration service, the board of education requested that the school program and its policies be extended to include other schools in the boroughs of Manhattan and the Bronx.

This experiment in the public schools is under the direction of the director of health education. Working with him are the assistant director of educational hygiene and the health education supervisor of the demonstration for the public schools, who is now also an official appointee in the city-school system with the title of supervisor of health education.

Special Teachers Develop Programs

The health education program in the public schools in New York will ultimately be guided by the special teachers of physical education. To this end five special teachers of physical education have been released from their motor-activities program to help in developing the larger health education program. One of these teachers is assigned to the Bellevue-Yorkville Health Demonstration area. A special training course is being given to meet the needs of this group.

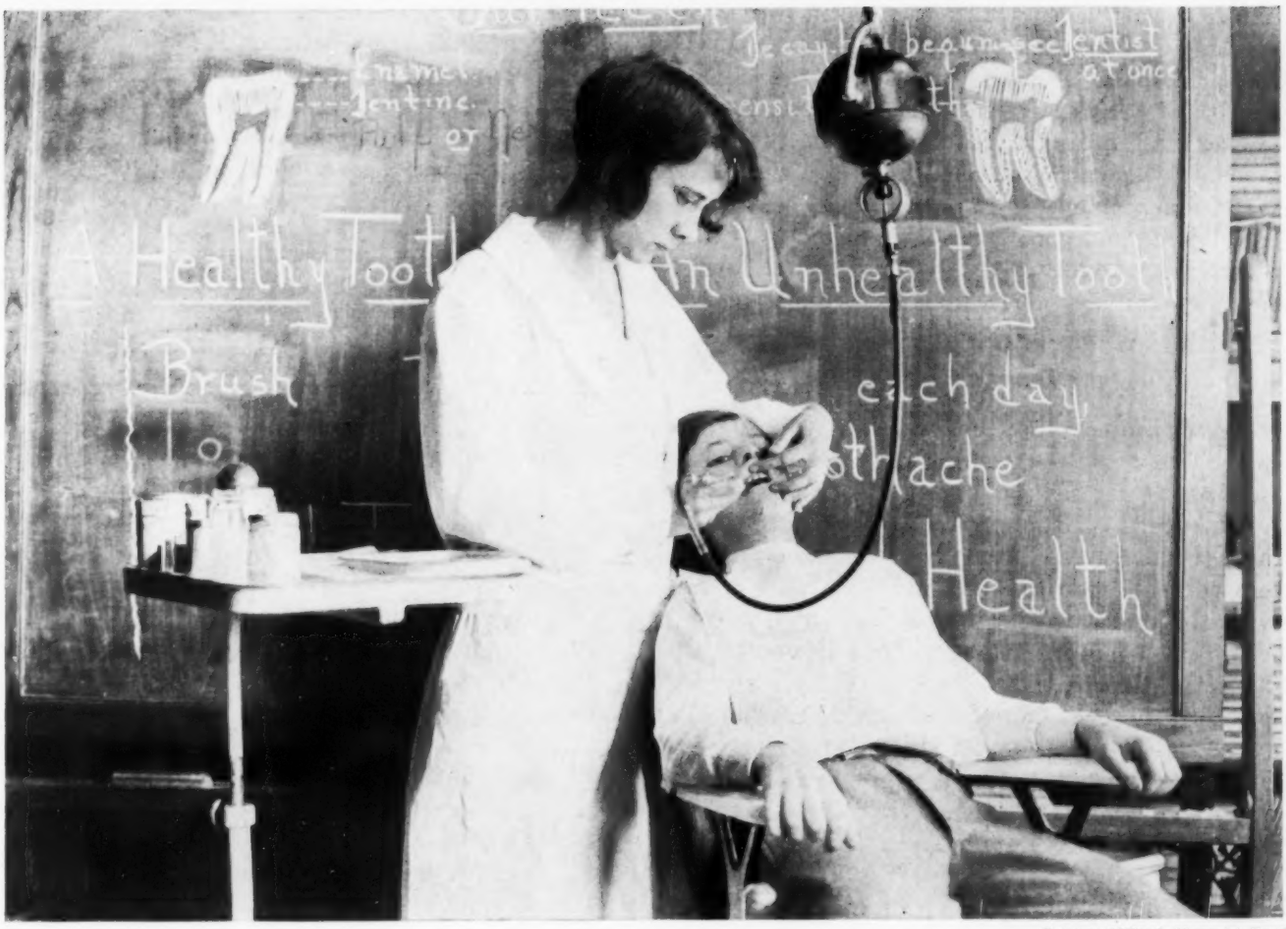
In order to encourage teachers in service to take courses in health education, the board of education has granted special privileges to certain teachers. From each school a maximum of three teachers is to be selected from those showing the most interest in health education. Each of these teachers is to be given the opportunity of taking sixty hours next year in health education. Then for the next four years they will be exempt from the regular thirty-hour annual study requirement for a salary increase. Cooperating with this plan Teachers College, Columbia University, is offering two new courses in health education, one for teachers in service and one for special teachers and supervisors, which will take up definitely the problems in health education in New York City schools.

Supervisors Visit Classrooms

In the early months of the health education activities of the Bellevue-Yorkville Health Demonstration, the two supervisors for the public and the Catholic schools worked directly with the classroom teachers. Now that there are 1,600 teachers and about as many classrooms under the influence of the demonstration's health education program, classroom visits in the public schools are made by the supervisory teachers, working with the supervisor. The health education supervisors are concentrating on group meetings and on preparing and assembling material for teachers' helps. Their object is to put at the elbow of each teacher authentic material from which she may select, adapt and create new ideas and better methods of teaching health.

As in the teaching of geography and arithmetic, lessons in health are graded to the pupil's capacity for understanding. Children in the lower grades hear little about health and being healthy, for they cannot grasp the meaning of such terms. Instead they learn about growing, and what aids growth. From day to day they can watch the growth of some plant or flower in a window box at school and they can learn that plants need food, sunshine and air. They can consider some particular pet of their acquaintance and they can learn that the right food, sleep, rest, fresh air and sunshine are required for the growth of animals. Then it is easy for them to understand that what is true for plants and animals is also true for boys and girls.

The story that the school scales tell, the use of weight charts and reports, can be made effective in teaching health habits, even in the lower grades. In the Bellevue-Yorkville district children who are 10 per cent or more underweight are weighed monthly and all children are weighed twice each term. A weight card, which tells what each child should weigh and what he does weigh,



Courtesy Milbank Memorial Fund

Dental clinics have done much toward bringing about general mouth health in the demonstration center.

is sent home twice a term for the parent's signature. This is a practical device for interesting parents in keeping their children up to approximately normal weight. Frequently the weight report brings parents to school to find out how their children can be brought up to normal weight and the nurse or teacher then has an excellent opportunity to explain the importance of good food and the correction of defects as well as other health habits that build weight and help growth.

A story about milk affords an opportunity for teaching spelling, language, oral reading and writing to a second grade class, as well as for encouraging the milk drinking habit. The children and teacher together work out a story to which various members of the class have contributed. The story may read like this:

The cow gives us milk.
The farmer milks the cow.
The milk is brought to the city.
We keep it covered, clean and cool.
Every boy and girl needs four cupfuls a day.
Milk makes our bones and teeth hard.
Milk helps us to grow.
We want to grow.
We shall drink milk every day.

After this story is written the class may decide to illustrate it in their art period, or the story may be written and illustrated on the blackboard where it remains a happy influence toward increasing the school milk service.

The building of "good food" charts is a device often used in the intermediate grades. The children bring from home pictures of vegetables, fruits, cereals, milk and other foods that they eat during the week. Food values are discussed and pictures of good foods are arranged and pasted on a large chart. The children may find out from their mothers or from the grocer the price of each food and for their arithmetic lesson they may compute the quantities needed and the costs for their families. For language and reading lessons they may write and read stories about food. As a geography lesson they may learn where the foods come from. In their physical training period they may play a game of good foods.

Dramatizations, poems, stories, rhymes, slogans, songs and festivals are all devices that are used frequently in the classrooms in the Bellevue-Yorkville Health Demonstration area to help the children in forming good judgments about health and health habits. In one school a "Carnival of

Winter" was developed as a health project in which the entire school participated. Supervisors, principals, teachers, pupils and the departments of physical training, music, English, sewing and dramatics cooperated in producing the carnival, which was presented as a feature of the commencement day program.

Nutrition and good teeth, drinking milk, eating vegetables, having a yearly health examination and securing the correction of physical defects were emphasized in succeeding months.

Dental Projects Well Developed

Dental projects have developed in a most satisfactory way in the demonstration area under the auspices of the dental service of the Association for Improving the Condition of the Poor. In those Catholic and public schools where the intensive dental projects are under way, the mouth of every child has been examined and charted. A squad of dentists from the Oral Hygiene Committee of Greater New York gave their services free for these examinations. Each teacher and nurse was given a copy of the chart findings and both teachers and nurses are doing follow-up work suggesting to parents that they have any dental defects of their children corrected by the family dentist.

In one public school where there are 2,200 children, 1,185 dental defects have been cleared up since last November. In one Catholic school where, of 594 children examined, only eighty-four were found with teeth in good condition, the number of children with teeth in good condition has been increased in four months to 219. By stimulating interest in dental hygiene among the teachers and by reserving a day for each school at the dental clinic at the Bellevue-Yorkville Health Center a great many dental corrections have been made in all schools.

In two Catholic schools where there were no regular instructions in physical education, recreation programs have been introduced. Activities include imitative story plays, singing games and rhythmic games for younger children, "low-organization" games and posture exercises for primary groups, and folk dancing and team games for older girls.

On May 1, 1929, as a part of the Child Health Day observation, a health survey was made and an individual questionnaire was filled out by all public-school pupils in the district in grades 4 to 8. In the lower grades, the teacher filled out the survey by noting the raising of hands to each question. Pupils were instructed not to sign their names to the individual questionnaires. These answers are being tabulated in the offices of the demonstration and future health work will be stressed in individual schools according to the needs shown by these questionnaires.

The demonstration proposes to use the same form annually on May 1, for three or four successive years in order to discover to what extent health habits may be improving under the health education program.

The questionnaire lists the following questions:

1. Do you sleep with bedroom window open?
2. Do you sleep at least ten hours every night?
3. Are you up at seven o'clock in the morning?
4. Do you drink at least two glasses of milk every day?
5. Do you eat breakfast every day?
6. Do you eat fruit for breakfast?
7. Do you eat a cereal for breakfast?
8. Do you drink coffee?
9. Do you drink tea?
10. Do you eat slowly and chew your food thoroughly?
11. Do you have a regular time every day to go to the toilet?
12. Is there a bathtub in your home?
13. Do you take a bath at least twice a week?
14. Do you have a toothbrush of your own?
15. Do you use it at least twice a day?
16. Have you any bad teeth?
17. Have you been to a dentist this year?
18. Do you have headaches often?
19. Do your eyes hurt often?
20. Can you read writing on the blackboard easily?
21. Can you hear easily what the teacher says?
22. Do you often take cold?

Definite Progress Noticeable

As the health education work in the Bellevue-Yorkville area takes firmer hold week by week and month by month, there are very definite marks of progress that may be noted by the interested observer. The school children are taking a greater interest in personal cleanliness and an improvement is noted in their food habits. Better care of teeth and an increase in corrections of teeth defects are evident. Underweight children are climbing up toward the normal weight zone. The school milk service is increasing and there is a gain in the correction of physical defects. Teachers and pupils alike are finding a happy approach to health work and the teachers are assuming an interested responsibility for encouraging follow-up work and the correction of defects of children in their classrooms.

Relating the School Plant to the Functional Organization

What one school system has done in improving its educational plants and how others may profit by this well worked out solution to a difficult problem

By ARTHUR B. MOEHLMAN, Professor of Administration and Supervision, University of Michigan

IN A recent article in The NATION'S SCHOOLS[1] I presented the basic conception of the school plant from the functional standpoint. The general principles developed were:

1. The school plant activity must be considered functionally as a secondary problem.
2. Since the basic purpose of the school plant is as a facilitating agent to the instructional process, it cannot be considered in policy or in execution apart from this purpose.
3. Organized functionally, the entire school plant activity must be subordinate to the general purpose of the instructional program.
4. Operating successfully in terms of function, the school plant activity must be under the administrative control of the educational executive and should be administered, whenever possible, in all of its detailed activities by individuals specifically trained as educators.
5. The school plant activity can function successfully only when all agents and agencies are considered objectively in terms of their purpose.
6. There must be constant appraisal of (a) the efficiency of operation of the school plant activity and of (b) the worth and value of these activities with relation to the efficiency of instruction.

In this second presentation, I shall attempt to show the application of these principles to an actual situation so that the practical aspects may be easily seen. For this purpose it would be possible to select a number of school districts including Denver, Colo., Minneapolis, Minn., Detroit, Wyandotte, Mich., Milwaukee or Grand Rapids, Mich. Hamtramck, Mich., will be selected, however, as a specific illustration because the transition from the traditional to the functional is comparatively recent and survey data are available in the superintendent's office to prove all of the assertions made here. I will first present the conditions under the traditional organization and then contrast these with existing conditions.

Under the old organization there was no definite school plant policy. Schools were developed in piecemeal fashion and considered solely as school plants. There was no general policy of development and placement. Educational designing was conspicuous by its absence. Architectural service was chosen upon the basis of locale rather than in terms of previous achievement in this field. Specifications were loosely drawn and inspection of construction almost negligible. Specialized rooms were included in some plants but purely from an architectural rather than an educational standpoint. Nowhere in the records of the board of education is there available a statement of school plant policy or of the importance of the school plant with relation to the instructional process. There were no standards for personnel, their selection or administration, no standards of cleanliness and there was little if any inspection of results. Upkeep was only casually considered. Without standards of adequacy there was little attempt to determine the annual need for repairs. If decreases in the budget were considered necessary, upkeep of the school plant suffered first.

No Standards of Work Followed

In planning the buildings the architect worked directly with committees of laymen who were members of the board of education. Janitors and engineers were hired by board members on account of their political availability and, once hired, their work was seldom appraised. The principal of the building had no administrative control over the operating personnel. The instructional and operating activities existed side by side without integration or coordination. The buildings were often quite dirty. There were no standards of units of work per individual. The same area under similar conditions might have one man in one building and two in the next.

Supplies were ordered in accordance with the

[1] "Relating the School Plant to the Instructional Process," Arthur B. Moehlman, The NATION'S SCHOOLS, p. 21, August, 1929.

need expressed by each cleaning agent and requisitioned either verbally or in writing. There was no inspection to determine what amounts or types of materials should be used. It is not surprising that the survey showed a wide range in units of time use and in amounts of supplies. Coal was purchased as coal, without definite B.t.u. standards and without appraisal of the quality delivered. Variations in amount of fuel for the same type of heating plant in approximately the same sized building were large.

While it is admitted that the traditional organization of the school plant activity was very poor in this community, it was no worse than that which exists in many similar situations to-day. On the other hand, there are also many districts traditionally organized where mechanical efficiency is of a high order and where all needs, except those of close coordination with instruction, are met.

New Directors Study Situation

Beginning in 1920 there were a number of changes in board membership. The newcomers were generally professional men. They began to study the conditions of their system and to compare them with those in nearby and more progressive districts. Out of this came the desire to develop for Hamtramck one of the best school systems in the country. They sought first for a well trained executive who was capable of meeting all of these problems. In making the choice the board consulted a special committee composed of three superintendents from nearby communities.

Both the school board and the superintendent carefully studied the entire situation. Data on local conditions were secured and comparisons made with other school systems through visitation and observation. The members of the board attended all state and national educational gatherings to discover how their local problems could best be solved. Finally in February, 1926, a resolution was unanimously adopted setting up a continuing self-survey under the direction of Superintendent M. R. Keyworth, assisted by such outside specialized service as he might require to solve technical problems. The continuing self-survey was immediately started. It has been in constant operation for four years. The results with respect to the school plant activity will be discussed here.

Before establishing a policy with respect to the organization of the school plant Superintendent Keyworth initiated a general survey of conditions. The results of the data compiled through the checking of records and unit observation of current conditions have been mentioned. These conditions were presented to the board of education and after considerable discussion the board formulated a general policy with respect to the school plant. This was done in February, 1927. Since this conception of policy and its method of development are fundamental in a functional, unitary organization, they are reproduced here.

The School Plant[1]

It shall be the policy of the board of education to consider the school plant as one of the major factors in (1) the facilitation of the instructional process and in (2) satisfying the educational and social needs of the adult community.

The function of the school building shall be: (1) to develop in permanent form the best architectural expression of the curricular needs at the time of construction, and (2) to stand as an inspiration both to the child and to the community of the ideals of public education.

The school plant activity shall be considered from three phases: (1) the modification of old buildings to meet current needs; (2) the providing of new buildings; (3) the care of existing buildings.

It shall be the policy of the board of education to recognize four distinct but closely correlated stages in the development of the school plant.

Superintendent

1. It shall be the duty of the superintendent to determine the need and location of new buildings; to determine size and location of site and to translate the curricular and social needs of child and community into numbers, sizes, types and location of rooms. It shall further be the duty of the superintendent to develop standards upon the basis of research and experimentation for permanent equipment, for types of materials and for the methods of construction, for approval by the board of education. It shall be the policy of the board of education to consider these in terms of ultimate rather than in terms of immediate cost.

Board of Education

2. It shall be the function of the board of education to consider and to approve the educational needs, standards and plans as presented by the superintendent and to make provision for the financing of the school plant program, according to law.

Architects and Engineers

3. It shall be the duty of the board of education to select the architect and engineers who shall be responsible for the preparation of the

[1] Public-School Code of Hamtramck, Part I, Chapter X.

technical drawings and specifications, in accordance with the standards of the board of education. The architects and engineers shall be under the direction of the superintendent and all plans and specifications shall be approved by him, in accordance with the adopted standards, before they are presented to the board of education for legal approval.

Building Contractors

4. It shall be the duty of the board of education to select in accordance with law, the contractors who shall be responsible for the construction of the building. The architect shall act as the agent of the board of education, under the direction of the superintendent, during the construction period and shall be responsible for the supervision of construction by the legally employed contractors in accordance with approved plans and specifications.

Appraisal

School buildings and grounds shall be judged by the board of education in respect to their contribution to the efficiency of instruction.

Operation and Upkeep

Operation of the school plant shall include all activities essential to heating, ventilating, and cleaning the building. The superintendent shall be responsible for its operation.

Upkeep of the school plant shall include the necessary service and repairs through which the physical plant is constantly maintained in the most efficient condition possible. The superintendent shall be responsible for the upkeep of the school plant.

Appraisal

The operation and upkeep of the school plant shall be judged by the board of education in terms of their contribution to the efficiency of instruction.

The superintendent was then authorized to develop means of procedure for carrying this policy into effect. The problem was studied with regard to the mandatory and permissive laws of the state governing the school plant and the adopted policy of the board of education. The results of this study were incorporated in a chapter, later inserted in the complete school code of which the chief features were: (1) placing the administrative control of all operating agents under the building principals; (2) making the chief engineer a supervisory officer with respect to plant operation to furnish technical advice to the principals as required; (3) considering operating personnel upon the same basis as other personnel; (4) placing administrative control of upkeep under the direction of an educationally trained engineer and making the principals responsible for the initial determination for repairs and for redecorating; (5) placing the control of the building program and educational planning under the superintendent; (6) making the architects and other specialized temporary building agents a part of the larger executive and placing them under the executive control of the superintendent; (7) making definite provision for the constant appraisal of the school plant both from the standpoint of mechanical efficiency of operation and with respect to its contribution to the efficiency of instruction. These means of procedure are again so complete an expression of the philosophy of functional organization that they are quoted from the code[1] as follows:

The School Plant

A. Mandatory Laws.
Chapter 3.
—Care and use of school houses.
—All plans for school buildings costing $300 or more to be approved by the superintendent of public instruction.
—State superintendent has authority to inspect and condemn school houses.
—No tax above $300 shall be expended until the superintendent of public instruction has certified plans and specifications.
—State superintendent shall approve heating and ventilating plans.
—Unlawful for officers, architect or builder to vary from approved plans.

B. Permissive Laws.
Chapter 10.
—To perform such other duties as are required or as may be necessary to the general welfare of the school and district.

C. Interpretation by the Board of Education.
The organization of the school plant activity is in accord with the spirit and letter of the state law in respect to building school houses.

D. Adjustment to Live Needs in Advance of Formal Legislation.
(None.)

I. The Plan

The purpose of the school plant shall be considered as: (1) an agent in the facilitation of the instructional process and as (2) an agent in satisfying the educational and social needs of the adult community.

Organization

The physical plant activity shall be considered in three divisions: (1) operation, which includes

[1]Public-School Code of Hamtramck, Part II, Chapter X.

the heating, ventilating and the cleaning of buildings, and the care of grounds; (2) upkeep, which includes the making of essential repairs and replacements; and (3) new buildings and changes in existing buildings, or the activities generally classed under the head of the building program, including determination of need, location and size of site and the educational planning of the proposed building.

The operation of the school plant shall be under the supervisory control of the chief engineer under the direction of the superintendent.

The upkeep of the school plant shall be under the administrative control of the chief engineer under the direction of the superintendent.

The building program shall be under the direct control of the superintendent of schools.

Operation

The operating personnel shall consist of building custodians, firemen, cleaners, bath attendants, matrons and others engaged in servicing, cleaning, heating, and ventilating the school buildings. These shall be under the direct administrative control of the building principal, except as such control is delegated by him to the assistant principal. The principal shall be responsible to the superintendent for the efficiency of the operating activities and shall rate, as directed, the efficiency of operating personnel. The chief engineer shall act in the same relationship to operating personnel as the director of instruction to the teacher. At the direction of the superintendent, he shall make inspections and report the results of these inspections both to the principal and to the superintendent. He may be called into conference by the principal to aid in the solution of any technical problem arising and shall work in this capacity under the direction of the principal. He shall also engage in research activity, under the direction of the superintendent, to improve the efficiency of operating service.

Upkeep

The upkeep of the school plant shall be under the administrative control of the chief engineer and he shall be responsible for all of the personnel and materials required in this activity. The need for repairs may be determined initially by the building principal or by the chief engineer. When determined by the latter, the principal shall be notified of such findings. The principal will then requisition the necessary service in the regular manner through the finance department. In case the work is to be done by an outside organization, the chief engineer shall be responsible for developing the technical description of the work to be done and for setting up the specifications. After the contracts have been made he shall act as the inspector for the superintendent to see that the contract is faithfully executed.

Building Program

The need for new buildings and changes in present buildings, or the building program, shall be under the direct control of the superintendent. Research for building needs shall be made constantly. The basis for such research shall be the child accounting and building use records prepared periodically by the principals for the information of the superintendent. In making this study the technique employed shall be that developed in "Housing the Children," (Research Series No. 1).

The superintendent of schools will present annually to the board of education, a statement of city and school growth during the preceding year; the present use of the school plant, the additions and new buildings required; the progress made upon new projects, together with suggestions and recommendations for the improvement of school plant conditions.

In the study of school plant conditions the cooperation of all agents is required. Primary reports and neighborhood surveys are required of the teachers; principals are charged with the responsibility for the preparation of complete data for their school districts, and the records activity must organize and analyze all of the data for the entire school district for consideration by the superintendent.

Selection of Architect

In case the erection of new buildings is contemplated the superintendent of schools shall recommend to the board of education the names of at least three architects, whose ability to design school buildings has been successfully demonstrated by school buildings in satisfactory operation. The board of education will choose one architect from the superintendent's list who shall become the architect of the board of education for the building involved and who shall work under the direction of the superintendent of schools.

Building Plans

All plans must be drawn in accordance with the state code governing school buildings and shall, in other respects, be governed by the needs of the Hamtramck educational program.

The preliminary drawings of school buildings shall be approved in writing by the superintendent of schools with respect to the educational plan before being submitted to the state department of public instruction for approval, as required by law.

The legally approved preliminary plans, together with sketches of the proposed elevation, shall then be submitted to the board of education for approval, and after such approval, work started upon the working drawings under the direction of the superintendent of schools.

Upon completion of the working drawings they shall again be approved in writing by the superintendent of schools and by the department of public instruction, as required by law, before presentation to the board of education. After approval by the board of education, the plans may be let for construction bids in accordance with the legal routine governing such letting of building contracts.

II. Relation to Policy

The policy of the board of education is to regard the school plant as an agent in the facilitation of instruction. In this chapter the organization of agents to carry out this policy has been provided for.

III. Evidence Upon Which Selection Has Been Made

The evidence upon which the selection of organization has been made is: (1) the policy of the board of education in respect to unit organization, (2) the result of observation in different cities operating under conditions (a) where the operating agents are independent of the educational agents and (b) where the operating agents are considered in terms of their relation to the instruction program and (3) the opinions of progressive authorities in the field of school administration.

IV. Technique for Determining the Effectiveness of the Plan

The efficiency of operation of the general activities shall be judged[1] upon level D.

The worth and value of the activities in relation to the efficiency of instruction shall be judged upon level C when possible.

Policies were adopted in February, 1927, and the means of procedure in May of the same year. They have been in active operation since July 1, 1927. What changes have occurred during this period? What differences are to be noted?

Portions of the basic data secured under the initial survey of conditions as a means upon which to establish policy were developed as the "School Plant Needs" and published under the title "Housing the Children, a Community Project."[1] The ten-year program of satisfying school plant needs is proceeding upon this plan.

The principals were next trained in appraising the standards of cleanliness essential to a well conducted school plant. They were also given instruction in some of the simpler technical problems of heating and ventilating. To remove this from the field of guesswork recording machines were introduced which made possible sending of regular information to the superintendent's office for constant study.

The chief engineer was assigned to research upon units of work, standards of supplies and methods of operation. Rough standards were immediately developed and these are being refined through constant research, all motivated in terms of instructional needs.

Repairs long neglected because of lack of organization, notions of false economy, and accelerated as the result of the type of construction in earlier plants, were studied and budgeted over a period of years. The board of education was impressed with the importance of the upkeep activity in developing the annual budget and ample annual allowance has been made to care for this makeup program.

Personnel Carefully Studied

Personnel was studied and definite qualifications developed. To-day every operating employee must pass a mental and physical test to determine initial fitness. If the employee is not already trained in these duties, a course of training is provided. He is then placed upon probation until he has attained a degree of efficiency that conforms to the current standards. He is then placed upon continuing tenure but provision is made for his return to probation and his ultimate dismissal if at any time the appraisal of his efforts is negative. A wage schedule was adopted that enabled the district to choose individuals in terms of character requirements as well as mental and physical fitness. Finally, it was necessary to develop an attitude and a morale among these employees so that they might contribute to the greatest possible extent.

A radical procedure was adopted in making the operating employees members of the school staff and having them meet monthly with teachers and pupil representatives in sessions that have for their purpose the consideration of problems within the building and the best means of solving them. By these means the teachers have been brought into contact with the operating problems and the

[1] Appraisal methods: Appraisal may be conducted by means of four methods. Appraisal by Method A is the crudest means of arriving at a judgment. In the absence of scientific evidence judgment may be based upon presentiment, intuition or a "hunch." Appraisal by Method B proceeds through the collection of a series of readily available facts interpreted in terms of training and experience. Appraisal by Method C is judgment based upon inconclusive trial of activity or practice. Appraisal by Method D is judgment based upon the results of conclusive evidence secured through the results of scientific experimentation.

[1] Research Series No. 1 of the Continuing Self-Survey. Copies may be secured upon request to Supt. M. R. Keyworth, Hamtramck, Mich.

custodial employees have learned of instructional needs. Recognition of meritorious service is also given to operating employees through the house organ. As a result there has been a gradual change in attitude and the morale has been raised correspondingly. The entire character of buildings and grounds has been changed. Clean buildings have replaced obvious dirtiness, conflicts between instructional and operating personnel have been practically eliminated and a constructive cooperative attitude has developed. The custodial officer feels that he is an important factor in the education of the children, he knows that his work is essential to the success of the educational process and, finally, he is an aggressive community agent, within his group, in bringing to the people an idea of the possibilities of public education.

These changes have taken place within two years.[1] The continuation of this program has possibilities not yet completely considered by the administration. Ultimately I believe the Hamtramck school plant will take its proper place and become a very active agency in the development of instruction. The method of procedure and the technique of development should be of interest to every school executive who has sensed these problems but has been unable to develop a means for effecting the change from the traditional to the functional plan.

How Universities Are Serving Local Communities

Assistance to local communities by holding institutes, conferences and short courses is given by many colleges and universities in the United States, according to a statement issued by the Bureau of Education. In addition to this service, assistance to persons outside the institutions is rendered by lending packages of books and preparing outlines of study.

Educational service in the form of packages of books and literature, bibliographies, outlines for study and discussion, and other assistance for persons outside the institution, is furnished by fifty-nine colleges and universities in thirty-three states, Hawaii and the Philippine Islands.

Other forms of educational service rendered by extension departments of such institutions are lectures by members of their faculties or by prominent persons for teachers' institutes, women's clubs, commencement exercises, and other occasions. In all, 195 higher institutions report this service.

[1] A research bulletin showing the past and present conditions will be published in 1930.

Visual aids for instruction and entertainment are supplied by fifty-two colleges and universities. One hundred and forty-one higher institutions assist local communities in holding institutes, conferences and short courses; and sixty-four promote parent-teacher or other club work. Debating leagues are sponsored by 129 colleges and universities; community drama is promoted by fifty-four and sixty-five institutions report the use of radio in giving lectures or in other educational extension work.

Training Teachers—The County Superintendent's Task

"Of all the tasks of the county superintendent of schools, the training of teachers takes precedence." Kate V. Wofford, who voices this opinion, is superintendent of schools, Laurens, S. C. Miss Wofford has a splendid record of administrative achievement. In a distinctly rural county she has in five years reduced the number of schools from sixty-nine to thirty-one, eliminating all but three one-room schools.

"In the last analysis the effectiveness of the work of any administrative officer whether he be city, county or state ought to be judged by his ability to improve the quality of teaching which takes place in the classrooms under his supervision," Miss Wofford says.

"Not only should the superintendent assist in the improvement of the quality of teaching service, he should see that the teacher, herself, is given a chance for continuous development and growth. Whether the young teacher be trained or untrained the school system in which she happens to be placed owes her the opportunity of professional growth. Many ways of procedure for such growth have already been established: helpful supervision, institutes, extension courses, study centers, reading circles, teachers' meetings and teacher participation in the formation of school policies.

"Perhaps in matters of helpful supervision of teachers the county superintendent finds his greatest field of service, and no matter whether the superintendent has one supervisor or many his responsibility does not end in delegating wholly the supervisory program to others. Supervision has developed from its early inspection stage to a helpful service never dreamed of by those first responsible for it. The supervisor is no longer a checker and inspector but an understanding friend of teachers whose joyous service is to make available to his teachers the best things in education everywhere."

Ways of Improving Scholarship in the School

Devices used in the Batavia, N. Y., Junior-Senior High School for raising the scholastic standards of the pupils have proved their worth over a period of years

By HOWARD D. WEBER, Principal, Junior-Senior High School, Batavia, N. Y.

ALTHOUGH each of the seven cardinal principles of secondary education is recognized by those engaged in work in the educational field as being vitally important, one of them, "the command of the fundamental processes," is still held by the lay public to be the main purpose of the secondary schools.

This is perfectly natural, since we are not yet far beyond that period when the main function of the high school was to prepare its pupils for college entrance. The fathers and mothers of today naturally think in terms of their own school days. The colleges and universities at the present time, even more than in the past, place the greatest emphasis for entrance to their institutions upon the scholastic preparation of the prospective student. By them, a secondary school is judged almost entirely by the success or failure of its graduates who go on to higher training. Perhaps this is as it should be, but the fact remains that the colleges still so dominate the processes of secondary schooling and also the thoughts of the public in general in regard to the work of the high schools that the average school man must place greater emphasis upon the scholastic side of the curriculum than perhaps its importance warrants.

To maintain an enviable record for his school and to induce his student group to hold to a high scholastic standard, every high-school principal is constantly on the alert for various means and administrative devices to motivate interest and thus produce a higher grade of work on the part of all of his pupils.

Honor Roll Incentive to Work

In the junior-senior high school of Batavia, N. Y., with its enrollment of more than 1,300 pupils, we have, during the last few years, been making use of several schemes and devices that have been valuable in bringing about a higher standard of work on the part of every pupil. As an incentive to better work, our honor roll plays an important part. The passing grade is 65 per cent. All pupils who obtain an average of 85 per cent in at least four subjects are placed on this roll. Their names are read from the assembly platform and are also published in the local newspaper. While this publicity alone is a decided incentive to some, we have given added importance to the honor roll by sending to every parent who has a child on this roll a card of commendation. This card of commendation reads as follows:

Batavia Junior-Senior High School
CARD OF COMMENDATION

My dear M.....

It gives us great pleasure to inform you that

.....

has done excellent work in h.... studies and has been placed on our honor roll for the..... six weeks period 192....

We appreciate the fact that in addition to natural ability in your child there must have been fine cooperation on your part.

We should be glad to have you visit school at any convenient time.

Sincerely yours,

..... Principal.

.....Special Class Adviser.

In addition to these cards, letters are frequently sent at the end of the year to the parents of honor pupils congratulating them on the records of their children and telling them of the various prizes and scholarships that are open to competition. These communications to the home have been worth while. Not only have they promoted better feeling and cooperation on the part of the parent so far as the school is concerned, but they also have resulted in greater parental interest in better scholarship.

Another use of the honor roll has been in connection with the system of honor awards. A pupil who has been on the honor roll four out of the six possible times during the year is presented with a small celluloid pin designed by the art department of the school. The second year that he maintains this record, he receives a bronze "B" pin. This is followed by a silver "B" for the third year and a gold "B" for the fourth.

The first three awards are given at the last assembly program of the year but the gold pins are saved for the annual commencement exercises. The names of the successful pupils are printed on the commencement programs and the pins are presented by the principal with appropriate remarks.

This system of awards has been in use for more than four years and has been found to be an effective incentive to better scholarship. Of course only pupils of superior or high average ability are able to qualify for these awards but they have been instrumental in stimulating these pupils to greater effort. There is no doubt but that the honor awards are a potent device in our campaign to improve scholarship. These scholarship pins are purchased by the board of education at a cost of from $1 to $2.50 each.

In the seventh and eighth grades a similar scheme exists except that the pins are far less expensive. The interest in them, however, seems to be as great as in the upper years of the school. Another award is also given in the junior high school. The council of the junior organization, feeling that many hard working pupils could not hope to obtain the average of 90 per cent required for the honor roll in that department, proposed another pin for all of those having a good citizenship record and an average of 85 per cent in at least four reports. This is regarded as purely an experiment, proposed and financed by the junior council with the consent of the faculty. The results so far have been favorable, but the experiment is being watched closely to keep the earning of an honor award from being too easy of attainment.

Work Adjusted to Ability

The greatest incentive to better scholarship in the junior high school has been the offering of differentiated curricula to the varying ability groups. Pupils who were formerly failures, misfits and trouble makers have become, in a large measure, contented, successful school citizens when their work was adjusted to their abilities. It is now not uncommon for pupils in the lower ability groups to be on the honor roll and to receive honor awards along with those from the superior groups.

The establishment of a local chapter of the National Honor Society in the Batavia High School several years ago marked an important step in the effort of the school authorities to motivate higher scholarship. While the qualifications for this society include a measure of the candidate's service, leadership and character as well as his scholarship average, the last requirement is fundamental and necessary before a pupil can be considered for election to the organization. The result has been a decided effort on the part of many pupils to maintain an average that will place them in the upper third of the class in scholarship, thereby making them eligible for membership in the honor society. Election to the society is one of the most coveted recognitions in the life of the school. The two assemblies at which the new members are formally installed are the most impressive of the year. To be elected to the honor society has become an honor far greater than membership in any extra-class organization, with the result that interest in better scholarship has correspondingly increased.

Honor Society Interests Pupils

The National Honor Society is sponsored by the department of secondary-school principals, National Education Association. The organization, of which there are now more than 700 chapters, is rapidly assuming a place in the life of the secondary school similar to that so long occupied by Phi Beta Kappa in the scholastic life of colleges and universities. Information concerning the society may be obtained from H. V. Church, superintendent, J. Sterling Morton High School, Cicero, Ill.

For the improvement of scholarship among pupils of the lower levels there are special class advisers that make up what is known as the scholarship board. Each of the six classes has an adviser appointed by the principal. These teachers have a lighter teaching load than do the regular members of the staff. This is done to give them more time for their various duties, the chief one of which is the checking of the scholarship records of their group. The report cards of all pupils who have failed in one subject are given out individually to each pupil by the adviser. The purpose of this conference is to find the reason for the failure. An adjustment of the pupil's schedule frequently follows, and often the principal and the parent concerned are called upon for advice and cooperation. The adviser follows the work of the pupil for the next six weeks with the result that there is generally a decided improvement in the quality of work.

All pupils who have failed in two or more subjects must appear before the scholarship board. In the upper four years of our school this board consists of the four special class advisers, the dean of girls, the assistant principal and one of the men teachers who is appointed by the principal. This board, with the assistant principal as chairman, sits formally in the dean's office and receives the failing pupils one at a time. Each

pupil must explain the cause of his failure and answer questions concerning his general actions around the building. Full information concerning each pupil, including his scholastic and intelligence rating, is in the hands of the committee. Those who have failed because of lack of application are frequently handled severely. Parents are often called into conference or else letters are usually sent to the home, making recommendations that call for cooperation.

A pupil who has had to appear before the board twice in succession is regarded as a problem case. To meet this situation there has been organized recently a new committee consisting of the principal and the department heads. This committee recognizes all cases coming before it as distinct problems and treats them as such. It takes parents and teachers into its confidence and reinforces the information it has with psychological and physical examinations to determine if possible the cause of the continued failure of the pupils.

In the seventh and eighth years a similar board is found. The two class advisers and four teachers chosen by the principal function in much the same way as the group previously described. Because of the use of differentiated curricula and ability grouping, the work of this board is less arduous than the work of the board in the senior school. On the other hand, however, since it is dealing with younger children all of whom are subject to the compulsory education law, its task is in some ways more difficult. But the results have been satisfactory and the number of failures in the lower grades is small.

It is not intended to give the impression that these scholarship boards are disciplinary only. The slow pupil, who probably is misplaced, is

Scholarship and sports go hand in hand under the stimulus of the National Honor Society at Batavia High School.

Underwood and Underwood

treated kindly and usually is handled privately by the chairman who does everything in her power to prevent discouragement or humiliation. Only the pupil who is capable of better work than he is doing has anything to fear at the hands of these specially selected teachers. A few years ago all pupils who had failed two or more subjects in the final Spring examinations were refused entrance at the opening of school in the Fall until they had appeared before this board. This, of course, was a decided shock to some of the proverbial "school loafers." The result has been that such action has not since been deemed necessary.

Of course, the meetings of such an organization require considerable time on the part of its members. Every teacher concerned, however, feels that it is time well spent and any talk about a change in procedure is always vigorously opposed.

The foregoing description of the scholarship board's procedure makes it evident that the name perhaps is not aptly chosen. Work of the same type is now carried on in other high schools by the personnel and guidance departments. For our situation, however, the results the board has secured have been successful.

Of course, such a committee is not a panacea for all scholastic ills. What is needed is better guidance, more and better planned differentiated curricula and a larger offering of courses than most secondary schools now possess. This experiment, however, has been found to be of definite value in improving the general scholarship average of many pupils who possess the ability but who, through lack of application, have become decided failures in their school work.

The Effect of Home Environment on School Work

To ascertain the effect of home environment on school work, a study of more than 800 public-school boys and girls, ranging in age from eleven to fourteen years, has been made in two cities in Germany, according to an item in the *American Journal of Public Health*. The quality of the child's work was judged by his advancement in school. No intelligence nor other tests were given. Only children of families with a moderate or low income, in which both parents were living, were included in the study.

It was found that the lower the economic standing of the family the poorer the child's work. Of the children of unskilled workers about 50 per cent were retarded in the lower grades, the proportion being even higher for those in the higher grades. These conditions are attributed largely to faulty hygiene, disease and physical weakness which are more prevalent among the poorer families, and partly to inherited lack of ability.

Dividing the Burden of Education—A Boon to the Less Wealthy States

That there is no doubt concerning the ability of the American people to finance their schools even though costs have increased greatly in the past twenty years, is the opinion of George D. Strayer, professor of education and director, division of field studies, Institute of Educational Research, Teachers College, Columbia University. A nation that is able to save 15 per cent of its income certainly need not be anxious concerning the expenditure of 2.68 per cent of its income for education.

Two outstanding problems concern the financing of education, according to Professor Strayer. The one has to do with the adjustment of the school system to the needs of those who are enrolled in it. Citizens need to be concerned about the kind of education furnished for the money they spend. The other major problem has to do with equalizing opportunities for education as between the wealthier and poorer communities throughout the nation. Schools profess to offer equality of opportunity. This is not done unless in every school system the money that is spent buys a great variety of opportunity suited in each case to the needs and abilities of the individual boy and girl, the individual youth and the individual adult. Some school systems approach this ideal. Throughout the country, however, these more adequate school systems exist side by side with other schools and school systems that deny opportunity to the great majority of those boys and girls who should profit from their education.

If the poorer communities are to provide an adequate program, there must be a larger measure of state support provided. Within a single state it will not infrequently happen that one community is twenty times as able to support its schools as is another. In like manner, certain states are very much more able than the others to finance their schools. Not only must there be a larger participation by the several states in the financing of their schools, but there must come a time when the nation will recognize its obligation to equalize the opportunities provided in education throughout the land, Professor Strayer believes.

Shall School Boards Be Fiscally Independent?*

The elimination of political influence and the more efficient administration of schools result when there is a complete separation of school and city budgeting

By JOHN GUY FOWLKES, Professor of Education, University of Wisconsin

AS MANY husbands and at least some wives will testify, it is essential for the harmonious and efficient operation of the household that the chairmanship of the family be clearly established and properly recognized. Likewise, for the harmonious and efficient operation of a local school system, it is imperative that the administrative responsibility with corresponding authority be established in a decisive and clear-cut fashion.

As has been shown in various studies, tradition and judiciary opinion alike have fixed education as a function of the state. But although the basic obligation of public education has been allocated to the state, the immediate administration of local school systems has been placed in the hands of local representatives. These local representatives to whom education has been entrusted are, so far as I know in all instances save St. Paul, Minn., organized into a body known as the school board or board of education. These boards of education are selected by ballot directly by the local constituency voting either at large or by wards. Or these boards are appointed by the mayor or city council or a combination of these two agencies.

Board Held Rosponsible for System

The chief executives of local school systems commonly known as superintendents of schools are chosen and appointed by the boards of education, and it is these boards of education that are held responsible for the success or failure of the local school systems. However, although these boards of education are held fully responsible for public education, the degree of financial authority in many instances in no way corresponds with the responsibility. The degree of fiscal autonomy enjoyed by boards of education ranges from partial dependence to complete independence.

For the purposes of this discussion we can do no better than follow the classification made by McGaughy and interpreted by Engelhardt and Engelhardt as follows:

Classification of Cities

"Fiscally Independent Cities. Cities in which the state delegates to the school board complete authority in all matters pertaining to the fiscal affairs of public schools. In these cities, the school board determines the school budget and either levies or causes to be levied the taxes necessary to raise the required funds. The board may or may not have full jurisdiction over the collection of taxes, the school depository or the treasurer. The law may fix a maximum tax limit. Taxes raised may be restricted for specific designated uses. Money required for capital expenditures may likewise be subject to certain controls such as limits on the indebtedness, or the vote of the electorate.

"Fiscally Dependent Cities. In these cities, the board of education is subordinate in fiscal matters to a regularly constituted municipal authority. There are varying degrees of control operating in this group of cities. The municipal budgetary reviewing body may have the power to reduce individual items of the requests made or they may be limited by a legal authority to modify the total estimate only. On the other hand, fiscal control may be limited to capital expenditures. In some cities, the council has full jurisdiction over all funds to be made available for bond issues. The law may likewise limit the tax levy in these cities.

"Special Cases. This group includes certain school districts that are required to submit their budget to county commissioners or some other specially constituted authority for approval. There are also cases in which the request for funds must be submitted to public or 'town meetings' for approval."

It is obvious that any division of authority over any institution is likely to decrease the conscious-

*A paper read before the Institute of Municipal Affairs, Buffalo, N. Y., July 19, 1929.

ness of responsibility for public education and to limit the effectiveness with which public education is supported and hence administered. It seems more apparent than ever that the fiscal status of the board of education in a local community has a very vital influence on practically all divisions of a school system. Some of the matters that are affected most by the fiscal organization of a local school system are:

1. Selection and tenure of the board of education.
2. Administrative organization of the school system.
3. Budgetary matters:
   A. Current expenditures.
   B. Capital outlay.
4. Development of school plant programs:
   A. Sites.
   B. Buildings.
5. General administration:
   A. Personnel.
   B. Selection of textbooks and supplies.
6. The curriculum.

Consequently, I shall center my discussion around the six headings just given.

In the light of the fact that school districts are organized as municipal corporations, there seems to be little reason for the selection of boards of education in any way other than direct ballot by the citizens of a community at a special nonpartisan school election. Also since both the general municipal and special authorities in the field of public administration on the basis of both theory and results favor the procedure of voting at large, there seems to be little cause for departing from this method in selecting the board of education.

Too Many Political Affiliations

Although appointment of a board of education by the mayor or council or combination thereof does not preclude the possibility of a desirable board of education, such a means of selection certainly encourages selection of the board on the basis of political affiliations. Public education has been subjected to party and factional prejudices far too much already in this country and it seems that all possible precautions should be taken to prevent such factors from controlling public education. Closely connected with the selection of a board of education is the tenure of such a board. Board members should be chosen to preserve continuity of policy in both spirit and action. The ideal board is one of either five or seven members, each member being a tenure of as many years as there are members on the board. In light of these various factors, it seems clear, then, that the board of education should be selected by popular vote, at a general nonpartisan school election.

Although fiscal dependence does not always divide the general administrative offices, there is a strong tendency for such separation to exist in cases of fiscal dependence. Marberry in his study, "The Administration of Public Education in Centralized and Coordinated Schools," showed that among cities having populations of 30,000 and over, the multiple type of control is found much more frequently in schools where the boards of education are fiscally dependent.

Business Manager Advisable

The most likely separation of general administrative control in the fiscally dependent organization is the removal of the accounting and business procedure from the office of the superintendent of schools to the office of the city treasurer or to a business manager. The layman who is unfamiliar with the training and point of view of the modern school administrator is likely to belittle the business ability of the educator. In fact, most of us have probably heard a remark such as, "He is a good school man, but no business man." H. P. Smith in his excellent study, "The Business Administration of a City School System," shows very clearly that the business side of educational administration is conducted in a decidedly superior fashion in those schools that have unitary rather than divided control. This finding was also supported by Marberry's study, as well as several minor investigations. In light of these facts, it seems that there is no good cause for removing the business routine of a school system from the office of the superintendent of schools. Since fiscal dependence tends to cause such a removal, it seems that this is another valid argument for fiscal independence of boards of education.

The basic and most fundamental curtailment that may possibly be effected by fiscal dependence is that of budgetary limitation. Inasmuch as a school budget is the financial interpretation of a school's activities, it is apparent that the limitation of a school budget means the limitation of the educational program of the school.

Limitation of the school budget because of fiscal dependence is likely to occur with respect to general current expenses, and with respect to programs of capital outlay. The necessity of making every dollar of a school budget represent some definite unit of the school's program is so generally recognized that in most cases where fiscal dependence exists the city council or other reviewing body may cut a budget only with re-

spect to the total sum rather than the detailed accounts. However, if the total amount of a proposed budget is decreased, it is obvious that a redistribution of money among the various accounts must be made.

Fiscal dependence likewise prevents a local school system from realizing full benefits from state aid. Frequently in communities where the budget is fiscally dependent, aid from the state results in a decrease in the amount of local funds utilized for school purposes. In other words, state aid releases money for general municipal purposes rather than increases the total amount available for education. Such a possibility makes it extremely difficult to formulate and realize an expanding educational program and also tends to thwart the fundamental philosophy of state aid for schools.

Some communities that enjoy fiscal independence with respect to current expenditures are fiscally dependent with respect to the issuance of bonds. Where such a condition exists, and it is impossible to employ the "pay as you go plan" in financing programs of capital outlay, the school plant is frequently both inadequate and poorly maintained. Such a condition is extremely unfortunate since proper housing is one of the basic requirements for any activity.

The two best studies concerning the effect of fiscal dependence are "The Control of City School Finances," by G. W. Frasier, and "The Fiscal Administration of City School Systems," by J. R. McGaughy. Both of these studies indicate that, while there is no significant difference in the per pupil expenditure in fiscally dependent cities when compared with fiscally independent cities, the data show that the educational facilities provided in the cities where the board of education is independent are decidedly superior to those offered in the communities having fiscally dependent boards. Such findings for the country as a whole coupled with the discussion just presented seem to add another reason for fiscal independence of boards of education.

Fiscal Dependence Prevents Development

Not only does fiscal dependence of boards of education frequently prevent the development of a sound building program because of the regulations controlling the issuance of bonds, but often other factors attendant to fiscal dependence affect the development of a sound plant program even more. In many communities where the board of education is fiscally dependent school building sites are purchased by the council rather than by the board of education. Sometimes because of real estate interests of the council members this right of purchase amounts to selection of sites as well. For example, a concerted effort was made recently in a Midwestern city to give a school building site to the board of education when the site was in contiguous proximity to a cemetery for Negroes. Even though the board of education has the active privilege as well as the legal right to recommend sites for purchase, such recommendations are frequently taken under consideration and held in abeyance for months. Obviously, it is exceedingly difficult if not impossible to develop a sound school building program under conditions such as these.

School Work Often Delayed

In addition to being handicapped in the selection and purchase of school building sites, boards of education frequently encounter difficulty because architectural and legal service necessary in the planning and construction of school buildings must be obtained from the city council. Because of too much general city work, political situations and other extraneous factors, the work of school buildings is often postponed and long delays result. There is no evidence to show that there is any economy in this procedure with respect to architectural service on school buildings, while on the other hand, in light of the constantly changing and expanding curriculum, there is much need for the services of an architect who is peculiarly well qualified in the field of school planning and construction. As one reviews the probable influence of fiscal dependence on the development of a sound school building program, it seems plain that on another count fiscal independence rather than fiscal dependence is desirable.

It has been proposed that all public employees in local communities be chosen by what might be termed a "local civil service commission." This proposal is in effect now in part with respect to schools in that the janitors and engineers in some communities are attached to some office of the city hall rather than to the board of education. The right to choose and employ upon recommendation of the superintendent of schools the necessary staff of a school system is the primary function of a board of education.

Strange and incongruous as it may seem, fiscal dependence of school boards sometimes affects the selection and purchase of textbooks, materials and supplies. A short time ago while visiting the superintendent in a community of some 75,000 people, I learned that the city purchasing agent had refused to order certain supplies that had been requisitioned, such refusal having been made on the grounds that some cheaper supplies would do just as well. Textbooks, materials and sup-

plies are the working tools of children who are in school. Certainly if technically trained teachers recommend the use of one type of material, that material should be used if adequate funds for its purchase are available. In the case cited, the budget included enough money for the purchase of the materials requested. Again it seems that fiscal independence is desirable.

So far as I know, the rather direct relation of the fiscal status of the board of education to the school curriculum has been generally neglected. This neglect has been due, I believe, first to the rather narrow and limited conception of the curriculum by most people and second, to the very rapid rate at which the curricula of local schools have been expanding. A good illustration of the direct and specific influence of the fiscal status of the board on the curriculum is the matter of the playground activities of the school during the summer.

In a Midwestern city of some 60,000 inhabitants where the board of education is fiscally dependent the director of playgrounds has been experiencing difficulty in connection with certain equipment and apparatus that is owned by the park board but which is used by the playgrounds, the playgrounds as previously indicated being under the jurisdiction of the board of education. After the superintendent of schools, who is completing the first year of his administration, investigated the matter he discovered that formerly the playgrounds and playground directors were administered by the park board; that the playgrounds were transferred to the board of education only after a rather sharp and spirited political skirmish; that the park-board members hold a strong proprietary interest in the playgrounds and the attending positions. The superintendent also learned that definite plans had been made to handicap and thwart the present playground program. As the curriculum of this school system is enlarged, other similar cases will come up. Again the case seems to be for fiscal independence.

Itinerant Teachers for Manual Training in Small Schools

An itinerant teacher to teach manual training in three-teacher high schools may be employed with success, according to a recent article in the *Ohio Teacher*. Several schools may cooperate in paying the salary of the manual training teacher, when otherwise they could not pay the salary of a full-time teacher.

Two schools may employ a qualified teacher, each school paying half of his salary and his traveling expenses.

For smaller schools which cannot even afford this much expense, four schools might cooperate, each school paying a fourth of the teacher's salary. The work is started in two of the four schools at the beginning of the school year as if the work was to continue through the year. At the middle of the year the work is discontinued in these two schools and the teacher then starts work in the other two schools, conducting it in the same way as for the two schools during the first half of the year.

The Ohio State Department of Education is urging the giving of manual training in all schools of the state.

A Bill of Rights for the School Child

What are the educational rights and privileges that should be the inheritance of every American boy and girl? W. W. Carpenter of the George Peabody College for Teachers, suggests the following bill of rights for the school child:

Every child has the right:

To attend school every day during the school term and go to school the same number of days in the year as every other child.

To be instructed by a trained teacher.

To go to school in a building free from fire hazard.

To attend school in a building that is in a healthful environment, that is scientifically built and equipped and that is kept sanitary.

To be transported to school if the travel distance is too great.

To succeed in school.

Every child has the right to attend a school:

Where medical and dental inspection is available without charge.

Where organized play is considered a normal activity and is provided.

Where the love of home, the desire for its improvement and an appreciation for the beautiful and the good are taught.

Where cooperation in activities is encouraged.

Where appreciation of society, its struggles and victories is made clear; its challenge to the future made personal.

Where the selection of the life work of each individual is not left to chance.

Where the individual is trained for his life work.

Where the problems of the school come from problems of the community, state and nation and not altogether out of books.

Its natural surroundings enhance the architectural beauty of Scripps College, Claremont, Calif.

A College in Complete Accord With the Landscape About It

American architecture that is adapted to the color and spaciousness of Southern California characterizes the new residence halls of Scripps College, the third of which is now being completed

By HARLAN H. EDWARDS, C.E., Supervising Engineer, Scripps College, Claremont, Calif.

SCRIPPS COLLEGE, the second of a federation of colleges in Claremont, Calif., is completing for September occupancy the third of a series of four residence halls which are to house the entire enrollment of the college. Although these structures differ in general design, they have many things in common, all of which go to produce a college home that successfully combines beauty in architecture and good taste in furnishings with safety, comfort and economy in use.

In the planning and creation of this college, adequate housing for the students was considered of greater initial importance than classroom facilities. Therefore, the first buildings erected were residence halls, each hall accommodating approximately fifty girls, or a fourth of the total ultimate enrollment. Since safety and permanence were among the prerequisites of an adequate college home, a fire resistive structure of reinforced concrete plastered inside on metal lath and of steel channel interior construction was planned, the structure to have concrete floors, walls and roofs, floors colored by acid stain and polished, painted walls and wood trim, and the various necessary utilities and special rooms.

The desirability of single rooms for all students was recognized at the start. Provision therefore was made in each building for approximately fifty student rooms, together with the necessary public rooms. These consist of an entry and house office, a drawing room, dining room, pri-

The "Court of Palms," Toll Hall, is one of the beauty spots of Scripps College, and is an ideal setting for teas and garden parties.

vate dining room, two reception rooms, rest rooms for men and women and various auxiliary rooms throughout the building. Food service for each pair of dormitories is provided by a common kitchen, serving through a separate pantry to each dining hall.

"As the beauty of a gem is enhanced by its setting, so these residence halls blend with the beauties of nature round about—a realization of the dream of the designer to create a form of structure that should be in complete accord not only with the uses for which it is designed but with the landscape out of which it rises." Thus reads the descriptive pamphlet of this college.

The "Olive Court" between two dining rooms, often is used for outdoor dancing parties.

"There was needed an architectural style that might form one chord with a world of vast bright spaces, where the air is flooded with latent color, where the background is a near wall of shining mountains and the atmosphere most of the time is a brooding silence, marshaled by the eucalyptus trees, white stemmed, tall and feathery, casting but little shade. A strange blend of dreaminess and alertness, of brilliancy and repose, is the indescribable quality in the landscape to which these buildings belong.

"No style of architecture in which Americans hitherto have expressed themselves seemed quite appropriate. Although the strong serenity of the church spires of the New England classicists a hundred years ago might perhaps have given a motive, the difficulty of adapting it to a totally new environment would have been great. The nobleness of the early republican style was too masculine. Seeking to realize a more intimate style, the design for the Scripps group reveals a composite origin, partly American and partly foreign. It is spoken of as Mediterranean, but its originators are quick to resent the idea that it is a mere importation. To be sure, they have taken many hints from the domestic architecture of those South European peoples who inhabit countries not unlike California, but as a whole, the Scripps group of buildings forms an essentially American conception of how the members of a woman's college, in their most plastic years, should be housed.

"Perhaps its most characteristic feature is the way in which simplicity and elegance, austerity and beauty are combined. The value of the beautiful is everywhere recognized but it is expressed through simple means. The elegance of this design is in the fineness of arrangement among its

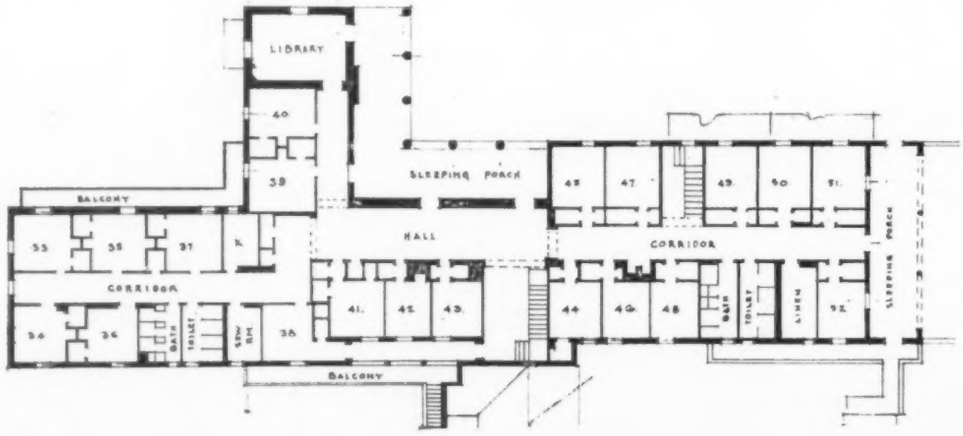
The first floor plan of one of the dormitory units is shown at the left. Gardens play an important part in the layout of all the buildings, as may be seen in this plan.

parts, not in display of sumptuous detail. Variety is gained by the ultrasimple means of graduated heights of roof, one slope of dull red tile rising behind another; the peace that enfolds it is the product of subtly disposed masses of plain building; the wonder of it is in leaving unbroken wide spaces of low wall that are tapestried by the sunshine."

Aside from all this, however, one is impressed also with the completeness and practicality of the structures. In each hall two suites of rooms are provided, one for a resident faculty member and the other for a member of the administrative staff. Each suite has a guest room with bath. A well equipped kitchenette for each floor and a sewing room on the second floor take care of the needs of the girls, while tiled toilet and bathrooms with marble partitions are centrally located within the dormitory area. One shower or bathtub and one toilet are provided for each four or five girls.

Contributing to a more intimate enjoyment of the intellectual and community life of the girls is a "browsing library" on the second floor. Here the girls can curl up in easy chairs around the fireplace and enjoy hours of quiet with the best that current and past literature affords. A liberal use of fireplaces with an ample supply of firewood is a feature of the general rooms that is greatly appreciated because of the atmosphere of homelike comfort and satisfaction that pervades them.

The private student rooms are of ample size, 10 feet by 12 feet, and are equipped with all the necessities of a modern girl's boudoir. A lavatory, with hot and cold soft water, a medicine



How the private rooms, baths, sleeping porches, sewing rooms and linen closets are arranged in the dormitories is shown in the second floor plan at the left.

cabinet, a mirror, a towel bar and light form the equipment which is placed in a recess at the entrance to the room opposite the closet or in a tiled recess enclosed by a pair of cabinet doors in the wall of the room itself. On the inside of the entrance door or closet door, as the case may be, a full length mirror is built in, while the large window, overlooking the campus or a garden, is equipped with a sash that opens in, with screens that open out and with Venetian blinds between. A fixed transom with wood slat shutters over the entrance door provides cross ventilation for the rooms.

The furnishings in these rooms, although admirable in design and ample in amount, are severely simple. Two chairs, a chest of drawers with a mirror, a study desk with a stand lamp and a comfortable single bed satisfy the requirements of the most fastidious person. A 7 by 9 carpet rug and a heavy padding cover the floor. Although wrought iron curtain rods are provided for each window, the students themselves furnish the draperies. They also provide their own bedding and linens.

The location of certain auxiliary rooms and equipment not usually given much consideration has here been found of major importance. The package delivery room, trunk room and laundry room, as well as a firewood storage room, have a definite use-relation to the rest of the building in point of accessibility and saving of steps, while the relation of kitchen to the service entrance and to food storage and preparation rooms ensures the maximum efficiency in operation.

Since the package room is the point of contact with the commercial world, it includes a group of compartments, one for each student room. It includes also a wrapping counter with cabinets below and closet or cabinet to receive clothing that is going to or coming from the cleaners. Since bed and table linens are sent out for laundering, it contains a large storage compartment for bundles of soiled linens ready for the laundryman.

A dining room for each hall contributes an atmosphere of homelike comfort.

This room has direct access by door to the street or service court and is near the house office so that packages may be signed for without making it necessary for the delivery man to go to the private portion of the building. The outside entrance constitutes a means of easy access from the street to the building and is used by the parents of the girls or by the girls themselves as a convenient motor entrance. This makes it doubly necessary to give the matron in the house office control of that entrance and to provide a corridor or passage from the room to the main

The student rooms are well and comfortably equipped with cheerful furnishings.

hall. If such a passage is not provided, the room giving access from the building to the package room will become a much traveled way or, in effect, an enlarged corridor.

The trunk room is in the basement and is as centrally located as possible with respect to the bulk of the student rooms above. A stair from the trunk room to the first floor is in close proximity to the stair to the floors above. This is especially necessary since trunks are not permitted in the rooms but must be unpacked and packed in the trunk room. The delivery entrance requirement is of secondary importance since it is better to carry the trunks a few feet farther than to require the girls to make many longer trips in unpacking and packing them. Racks around the room afford storage for two tiers of trunks in a minimum space.

Laundry Centrally Located

The laundry room is adjacent to the trunk room and is similarly placed with respect to the stairs leading to the rooms above. In this room are four laundry trays, clothes drying lines and an ironing board. Here the girls do much of their fine laundering.

Since the function of the wood storage room is to provide firewood in a place easily accessible to the public rooms having fireplaces, its proper location is obvious. A chute from the outside provides for wood delivery.

Kitchen Well Arranged

The kitchen is in a strategic position. Flanked on two sides by pantries serving the two dining rooms, the equipment arrangement of the kitchen is such that food passes from the raw to the finished state and to the point of service with as little travel as possible and with the minimum retracement of steps. This arrangement is elsewhere often subject to varying opinion, depending upon the chef who uses it. In the serving of a hundred persons here, however, it has been found possible to combine in the one kitchen, dishwashing, meat preparation, baking and cooking operations. Vegetable preparation is in an adjacent room which also opens into the vegetable storage refrigerator room. The entrance from the service court leads into an outer room adjoining this in which are kept the garbage cans and the can washing and sterilizing equipment. This room is screened from flies that might be attracted outside.

Next to this room and always accessible to the outside is a men's toilet and wash room for the use of the janitor and gardeners. Opening from

an interior hall is a similar room for the kitchen help. In odd corners or spaces, closets or small rooms have been placed for use as coat closets and janitor's equipment rooms. Just off the pantry is the servants' dining room, providing quick access for the waitresses—student girls—to their duties in the dining room, yet permitting them to get their meals almost at the same time as the others. Space for kitchen or table linens is provided in the pantry cabinet-work.

Food supplies other than meats, milk, eggs or fresh vegetables are taken from the delivery trucks in the service court to the grocery storage basement on a hand operated sidewalk type elevator. When supplies are needed they are conveyed to the kitchen by the means of a dumbwaiter.

The mechanical equipment for such structures is not complicated. Heating is provided by steam radiators throughout. In the principal rooms the heaters are concealed beneath the floors and heated air is brought into the rooms through ducts covered by ornamental grilles. Mechanical ventilation is confined to toilet and shower rooms, telephone booths and kitchen and storage rooms not provided with an outside window.

The electrical equipment for the student rooms consists of one bracket light, one ceiling pull-chain light for the lavatory recess and one for the closet and two wall receptacles. Communication throughout the building and between buildings is provided by a private telephone system operating through local switchboards placed in each dormitory office. Equipped for simultaneous ringing and talking, this system has proved itself valuable for rising and retiring, dinner and emergency calls as well as for its normal function of intercommunication.

Interesting Building Features

Many little details of equipment, arrangements and operation as seen in these buildings could be listed. Only a few, however, will be mentioned. Refrigeration requirements are handled by various cooling units which include the vegetable refrigeration room, a reach-in box in the kitchen, a salad case in the pantry equipped with adjustable tray guides and having its top at table height for use as a work table, a water cooler and glass cabinet and a cooling tank in connection with a tiled-in drinking fountain in the entrance corridor of the building. Ample reserve capacity is provided for future additions.

One of the most useful things in the building is the incinerator. Placed centrally in the dormitory area and equipped with a large charging door at each floor, it handles all the waste from the building with little labor. The kitchen garbage is taken by the city garbage collector.

The interior arrangement of the buildings themselves, as well as their relations with each other, has been planned to give plenty of light and air to every room and corridor and to provide maximum use for all facilities. Tile, brick or flagstone terraces and patios connect various wings of the halls and provide delightful areas between and around the principal rooms of each pair of buildings for use in parties and dances. Inner and outer courts beautifully planted and some equipped with fountains or pools give charming vistas from every room. These courts have been favorite spots for teas, garden parties, concerts and serenades.

Scripps College has afforded rare opportunity to develop an ideal plan. The plan has been carried out in a way that has set a high standard in college development.

Paying the Principal Extra to Keep Him From Working Too Hard

"A school principal is one who is paid extra to refrain from working too hard, so that when everyone else about the place has gone fagged or wild, his cool head will serve as a nucleus of sanity," writes Dr. Daniel Wolford LaRue, professor of psychology, Pennsylvania State Teachers College, East Stroudsburg, in the *Journal of the National Education Association.*

"The first duty of the principal," Doctor LaRue says, "is to give a daily demonstration lesson in mental hygiene, to carry out Kipling's 'If,' keeping his head when all about him are losing theirs, to remain a kindly, big-souled, thoughtful, sincere, fair-minded, progressive personality, to be a creative artist without the temperamental mood and passion.

"A sympathetic principal is like a good coach. He can grade the training, introduce variety, prevent staleness and breakdown. No matter what other drive is on, the 'drive' for mental health should always be on, leading in all supervisory efforts for both teacher and child."

Doctor LaRue in his article develops the following five rules for principals in fostering mental health in their school administration:

1. Be friendly and approachable.
2. Study, develop and integrate your personnel.
3. Through purpose build morale.
4. Economize the teacher's energy.
5. Use modern, democratic methods as you want your teachers to do.

Applying to Mathematics the Modern Ideas of Educational Science*

Present tendency in the teaching of mathematics is not to make specialists of the majority but rather to provide for them training that will be of specific and direct use

By GEORGE A. BOYCE, Instructor in Elementary Mathematics, Western Reserve Academy, Hudson, Ohio

THE principles that were enumerated and discussed in the first part of this article were all in the realm of psychology in which there is a great deal of experimental evidence to support the positions taken.

Let us now proceed to state our position on some of the major issues in educational philosophy. In this field we are not able to resort so much to experimental evidence, and anyone may be free to agree with us or thoroughly to disagree with us. For example, in the first philosophical principle—Principle VII, following—we may take the position of wishing to prepare for all possible contingencies in the progress of society. On the other hand, we may take the position of stating that it is impossible and futile to provide for such progress. Not much experimental evidence can be advanced in support of either. All that we can do is to hear what the past and contemporary thinkers have to say and draw our own conclusions.

VII. The Principle of Progress of Society:

"Progress of society is not inevitable, but is conditioned by the extent to which the individual recognizes his obligation to shape society toward more worthy aims."[1]

This same thought may be expressed in another way: "There is an essential congruity of interest between the individual and society. The possibility of the development of the individual is found in his participation in social activities and in social consciousness. The possibility of the development of society is found in the development of social personalities as individuals. The school is to be considered as a social institution or agency maintained for the purpose of assisting in the maintenance of its own stability and in the direction of its own progress."[2]

Again, this idea is stated as a basic point of view in the report of the National Committee on Mathematical Requirements: "The primary purposes of the teaching of mathematics should be to develop those powers of understanding and of analyzing relations of quantity and of space that are necessary to an insight into and control over our environment and to an appreciation of the progress of civilization in its various aspects, and to develop those habits of thought and of action that will make these powers effective in the life of the individual.

"All topics, processes and drill in technique which do not directly contribute to the development of these powers should be eliminated from the curriculum."[3]

Limit Teaching to Needs

Acceptance of this principle has far-reaching consequences on the course of study in mathematics. The traditional geometry has endeavored to prepare the individual for future contingencies and for the progress of society, but through a concept different from the one we follow. The traditional has supposed that the best plan is to teach the individual all of the geometry and all of the advanced mathematics that he can absorb after which he will then be prepared for all future mathematical needs, whatever they may be, whether such needs exist now in every-day life or not.

The position we have taken is this:

First, we shall teach him merely what he needs for living on a high plane to-day.

Second, the progress of society can best be promoted by developing individual consciousness of social problems.

Third, future changes in the way of living will largely be taken care of by changes in the curriculum through periodic inventories.

A further assumption is that there will be no sudden, cataclysmic changes in the structure of society that will require a knowledge of advanced mathematics on the part of the entire adult populace. To be sure, we have just viewed the cataclysm of the World War and we have noted that

*This is the second part of an article on modernizing high-school mathematics.

men with a knowledge of mathematics were in demand, particularly those who were specialists in mathematics. We aim to provide training for specialists for those who seek it rather than to make specialists of the majority. What is very certain is that we shall need a citizenry capable of thinking accurately about social affairs.

For example, "in viewing for civic purposes the city gas supply, one is concerned with the size of the plant, its cost, the total daily production, quantity of coal, oil and other materials employed, quantities of gas produced per unit of materials used, quantity of coke, tar and other by-products produced, values of the product, cost of labor, service rates, measuring the product as it is distributed, capacity of mains and service pipes and scores of other matters, which must be expressed in terms of quantity or it does not exist. . . . For the sake of condensing our illustrations, we here present a list of things which the individual views quantitatively whenever he views them adequately: roadbuilding; railroads; merchant marine; postal system; park systems; city water supply; agricultural production; electric light and power; garbage disposal; building; conservation of natural resources."[4]

"The usual courses in mathematics are based upon the assumption that a study of the concepts of quantity and of quantitative relations in the abstract will in some magical way give one power to see the quantitative aspects of everything. The mental condition of our population proves the fallacy of the assumption."[5] Hence, the course of study can embody but a small proportion of the traditional course. Relatively it will look like a mere skeleton. Time and money will be released for other new courses that are highly desirable. The mathematics that is retained will emphasize quantity in concrete application to the problems that confront an enlightened citizenry.

VIII. The Principle of Integration and Differentiation:

"The nature of social evolution involves the two supplementary factors of integration and differentiation, both of which must be recognized properly in secondary education."[6]

This principle has been implicitly brought out in previous discussions but it is explicitly stated here for several reasons. The reaction against mass teaching and against uniformity has raised a fundamental issue. Increased attention has been given to individualization, to training for "creative thinking" and to the development of individual personalities. This is particularly evident in such instances as the Winnetka schools, the Dalton schools and other progressive or new type schools. From the English schools particularly we hear much about a fondness for individuals in contrast to mass types. All of this is wholesome. The only difficulty has been that in some cases the reaction has gone from one extreme to the other.

Here in America where all citizens participate in controlling and directing all social institutions of a public nature, it is particularly important that we develop students who can do individual, creative work, but who also can work together cooperatively as a group in solving present day problems. On this basis we must provide for individual enterprise and at the same time we must develop situations that will require much group activity, committee reports, working with partners, socialized recitations and the like.

IX. The Principle of Immediate Values:

The course should give the pupil the most intrinsically valuable mathematical information and training he is capable of receiving at the time. Only a slight amount should deal with courses which he may or may not take in succeeding years.[7]

This principle has been stated by several authorities as being a cornerstone of the junior high-school curriculum. We have elevated it, slightly modified, to apply to the first year of the senior high school (the tenth grade), inasmuch as our thesis has been all along that the course is to be defended primarily on values that are of direct and specific use to the learner.

The question immediately arises: What place is provided for vocational mathematics, since vocational values are of both direct and specific use to the learner? We would, however, exclude specific vocational values on the ground that if the vocational mathematics needed in any particular vocation is not general and is not needed by most individuals, the instruction must not be required of all pupils; it must either be optional or else relegated to the vocational school or to the vocation itself.

There remains, then, the matter of propædeutic values—processes requisite for advanced work in the various sciences, for entrance to college and so on.

"As propædeutic for secondary-school science and the elementary science courses in college, the values of secondary-school mathematics are commonly overestimated although attention has frequently been called to the small amount of mathematical knowledge required for effective study of physics and chemistry. Thus Millikan:

"'There is no mathematics needed in elementary physics even as it is now, except the simplest

algebraic equations with one unknown, and the single geometrical proposition of the proportionality of the sides of similar triangles.' "[8]

In further support of this principle, let us refer to a study conducted by the National Committee on Mathematical Requirements: "The national committee recently conducted an investigation for the purpose of securing information as to the content of high-school courses of instruction most desirable from the point of view of preparation for college work. A number of college teachers, prominent in their respective fields, were asked to assign to each of the topics . . . an estimate of its value as preparation for the elementary courses in their respective subjects."[9]

Subjects Deemed Unessential

The result was that of thirty-four specialists reporting in physical sciences, 32 per cent felt that demonstrative geometry was not of "essential value." Of eighty-three specialists reporting in social sciences, not one held that demonstrative geometry was of "essential value." It is common knowledge that only a relatively few high-school pupils will study in college the physical sciences to any advanced degree. Hence it is particularly impressive when 32 per cent of the college specialists in this field feel that the students who come to them do not absolutely have to study demonstrative geometry previously.

We feel justified, therefore, in including as propædeutic only that small portion which positively can be proved to be of value for other secondary-school subjects, provided, of course, such has not already been mastered in previous courses or outside of school. Specific preparation to meet the requirements of any particular college or course of study in college will be left for the senior year, at which time the pupil's decision regarding further education will be more apparent.

Having excluded practically all but materials that can be justified for their intrinsic value, it behooves us to amplify slightly our interpretation of what we have considered intrinsic and useful. First of all, what is intrinsic is primarily to be determined from the viewpoint of the learner. "Anything is useful which gives wholesome pleasure, improves health, develops skill, helps one to get on with people, makes one economically productive, refines one's tastes, increases one's capacity to enjoy his environment and perfects one's ability to understand institutions."[10]

X. The Principle of Mastery:

Standards of achievement in basic fundamentals should approach perfection or 90 per cent accuracy. In exploratory courses and elective material, the norms of standardized tests may be accepted as satisfactory and sufficient achievement.

In this principle we are attempting to amalgamate the philosophy of mastery based on "opinion" as to what pupils should do with the statistical viewpoint as to what pupils actually accomplish.

Problem of Mastery Real Issue

The problem of mastery has grown to be a real issue in education. Current literature is full of dissertations on what pupils should be able to do. For one thing, the schools themselves have followed no set practice. In one school 60 per cent is "passing," in another it is 75 per cent, in others 80 per cent, although it is generally agreed that the endeavor has been to approach perfection—90 per cent accuracy or better. Not only many of our own educators but European critics also have accused us of being satisfied with low standards. Likewise, "business men have always charged that we are turning out incompetents — persons who could not get accurate results more than four, or at the most, six times out of ten when the demand is nearly ten correct results out of ten trials. Probably not even the business man is aware of the extent to which the product is deficient. In recent years survey results have been available, but their true significance seems to have been overlooked by many."[11]

In contrast to this, statisticians have realized the shortcomings of the percentage system of marking and the shortcomings of teachers' tests in general. The result has been the creation of a greatly improved device, the standardized test, for measuring pupil achievement. "Standard" or "passing" is commonly accepted by the statisticians to be the score that at least 50 per cent of the pupils attain. The great issue, then, is whether we shall give a little practice on many processes or much practice on fixing a few things at high level.

Perfection Set as Standard

Since the abilities that we would include in the course of study are of fundamental value to child nature and adult life, and since this leaves but a small residue of what is traditionally taught, we would spend much more time on these items than is usually spent, and accept perfection, with only an occasional slip, as the standard of mystery. Over and above these fundamentals we may introduce materials of widespread but not necessarily universal interest and intrinsic value. This will compose part of the more extensive work for the brighter pupils, and on this material we would

establish our norms statistically upon what pupils find themselves capable of doing.

XI. The Principle of Specific Objectives:

The useful goal of every teaching unit should be stated in terms of each specific fact, attitude or ability to be acquired. These should be stated in sufficiently explicit terms to be clear to every teacher and pupil. The corollary is that these should be stated in terms of pupil development rather than in terms of subject matter.

The issues in this field are:

1. What constitutes an educational objective? Is it an ability, is it a knowledge, is it an ideal, an activity, a concept?

2. Should the objectives be stated as rather general, as something to be attained over a period of a month, a semester or a year? Or should they be stated as something to be attained at the end of several days or even a day?

Our position can be understood better by first clearing up the interpretation of the meaning of objective. "An educational objective is a specific goal, useful in life, to be achieved by education. It is the usable achievement which should result from any one unit of school work. It is what the pupil should be able to do, to know or to be as a result of a given amount of learning. It is a specific usable skill, knowledge or attitude which should be developed by school activity. It is a specific useful purpose of educational activity. . . . The inclusion of any unit of teaching material is justifiable only if it points to the achievement of some specific, useful purpose which should be stated at the beginning of each unit of instruction."[12]

We may state at suitable intervals, the broad, general objectives to be attained by the end of a month or more. More important still, however, we should give detailed objectives to be attained in short working units of seldom more than four or five days. In industry, the manufacturer sets out to achieve a certain total production by the end of a month, six months or a year. Each day, however, it is closely determined beforehand what is to be accomplished during the day, and every few days, at least, there is a definite checking up on the results. In play, the football coach sets out to develop a good football team by the end of the season. Every day or every few days, however, there are the definite objectives of learning how to fall on the ball, how to tackle and other tactics.

With schools it has been more hit-or-miss. A class has been in the room for forty-five minutes. Another class comes in. They will be back tomorrow and the next day. Does the teacher have definitely in mind what is to be accomplished at the end of the third day? Do the pupils know at what they are to arrive? If so, the teacher and pupils will be more effective workers than if they were just plodding along more or less blindly.

To discourage initiative and originality is not our desire. We do believe, however, that it is desirable to state the specific goals of each small teaching unit in terms clear enough for the experienced teacher, the beginning teacher or the substitute teacher to know what change is to be expected in the pupils at the end of the teaching unit. "It should be possible to list our objectives precisely and still leave the teacher wide opportunity for planning how these objectives may be achieved."[13]

Furthermore, merely stating the objective by no means states how it is to be attained. There are countless ways of arriving at the objective "to be able to add correctly." It may be attained through games, flash cards and all sorts of devices. In the course of study we should certainly suggest definite activities and means of arriving at the objective. This would serve to give the teacher suggestions to be added to or changed in any way desired.

To summarize briefly, the concepts and principles herein developed are restated as follows:

Aim of education: The aim of education is to help the pupil to do well the things he most likely will need to do.

The curriculum: The curriculum is to be composed of the activities that children have and are likely to have both in and out of school.

Principles:

1. The laws of learning: The laws of exercise, frequency, disuse, recency, readiness and effect state that frequent, repeated practice is necessary, that there must be a proper mental attitude, or "mind-set," before practice and that practice must be accompanied by satisfaction.

2. Individual differences: There are enormous differences in capacity and in the effect of practice between members of a class.

3. Method: The school must give conscious practice in problem solving.

4. Measurement: Modification of the stimulus changes the response and that difference can be measured.

5. Psychological organization: The content of the course must be selected from the point of view of the children and from the consideration of social needs, not solely from the logical requirements of mathematics.

6. Transfer of training: Training of abilities should be carried on in as nearly normal situations

as possible. The course is not to be defended on any theory of general transfer of training.

7. Progress of society: The progress of society can best be promoted by developing individual consciousness of social problems.

8. Integration and differentiation: The course should provide for individual enterprise and at the same time develop situations that will require much group activity.

9. Immediate values: The course should give the pupil the most intrinsically valuable mathematical information and training that he is capable of receiving at the time.

10. Mastery: Standards of achievement in basic fundamentals should approach perfection or 90 per cent accuracy.

11. Specific objectives: The useful goal of every teaching unit should be stated in terms of each specific fact, attitude or ability to be acquired.

(To be continued.)

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Interscholastic Associations Foster High-School Athletics

The purpose and extent of state high-school interscholastic athletic associations in the different states are explained in a statement by Marie M. Ready, assistant specialist in physical education, Bureau of Education. These associations have as their principal purpose the fostering of high-school athletics as a factor in education, according to Miss Ready.

Prior to 1903 practically no organized effort had been made by the high-school superintendents or athletic coaches in any state to direct and control the interscholastic high-school athletic contests, except in Wisconsin, where definite efforts along this line had been undertaken as early as 1896.

During the last twenty-five years, state high-school athletic associations have been organized in nearly every state. These associations provide a central association through which the public high schools of these states may cooperate regarding the interscholastic athletic contests. By 1923 there had been organized in forty-five states, state societies or associations for the control of interscholastic high-school athletics.

University Extension Plan Is Popular in Massachusetts

More than 200 courses of study are now available to adult workers under the Massachusetts university extension plan. Last year's enrollment was over 37,000, it is stated, and may reach 40,000 by the end of the present year.

Under the plan the division of university extension is "authorized to cooperate with existing institutions of learning in the establishment and conduct of university extension and correspondence courses; to supervise the administration of all extension and correspondence courses which are supported in whole or in part by state revenues; and also, when it is deemed advisable, to establish and conduct university extension and correspondence courses for the benefit of the residents of Massachusetts."

By university extension is meant a university without buildings, with a campus of 8,266 miles, with hundreds of classrooms in all sections of Massachusetts and with teachers drawn from various universities, colleges and other institutions in the state. In addition, instructors are drafted from the ranks of professional and business men and women.

The early courses were taken by persons who needed them the most. While the average age of the students was thirty years, many of them were forty, fifty and even sixty years old. Workers handicapped by the neglect of early education were quick to seize upon the new opportunities offered.

It was found when the plan was first tried that, for the most part, the courses which had the strongest appeal were directly related to a definite vocation or trade. English, however, was the most popular subject.

More than 200 courses, both by correspondence and class, are now available, some of them carrying credit toward college degrees.

Instruction Costs in Typical Small High Schools—A Study*

Eliminating certain subjects, diminishing the number of small classes and introducing an alternating program are suggested as ways of reducing instruction costs in the small high school

By J. T. HOOD, Jr., Principal, Wilmington High School, Wilmington, Mass.

IN THIS age of mounting tax rates the public schools have received a great deal of publicity and much of it has been uncomplimentary. As a result of this publicity I began to study my own school, the Wilmington High School, Wilmington, Mass. As the study progressed I began to wonder if the same conditions prevailed in other schools of similar size throughout Massachusetts.

In previous studies of school systems, it has been generally agreed that the sums spent for instruction offer the greatest opportunity for extravagance to creep in. Other items in the school budget remain more or less uniform. For this reason it was decided to confine this study to instruction costs only.

The following questions were selected to serve as a framework for the study: What percentages of high-school classes are maintained for ten pupils or less? What particular subjects, if any, are the causes of these small classes? Is there any way to diminish the number of small classes and still serve the needs of the community?

In order to give some validity to the findings, it becomes necessary to obtain data from as many of the smaller schools as possible. A list of 116 schools was selected from the latest available report of the Massachusetts Department of Educa-

*This is the first part of Mr. Hood's article. The second half will appear in the October issue of The NATION'S SCHOOLS.

Here is a class in office practice where pupils obtain practical experience in general office procedure.

tion. Care was taken to select only schools reporting an enrollment of 200 pupils or less and claiming to be four-year high schools. Fifty-six of these schools cooperated with me and made possible the completion of the study. A questionnaire was sent to each teacher employed in the schools. The questionnaire was simple yet the data furnished were ample for the purpose of the study.

Salary Is Basis for Study

Since this was to be a study of instruction costs, only the salary of the teacher was considered and, further, only that part of her salary corresponding to the time actually spent in class instruction was taken as a basis for figuring the cost. In order that the comparison between costs existing in the various schools might be fair, it was decided to reduce all costs to a pupil-hour basis.

The approved Massachusetts high schools are required to maintain a session of not less than 180 days. To meet this requirement most of the schools have a forty-week school year. The usual practice is to have a school day of six forty-five minute periods. Some schools reporting have seven periods of approximately forty minutes. These schools were adjusted in this study to a school day of six forty-five minute periods.

The formula used in figuring the pupil-hour costs is the one employed by Kimball in his study of instruction costs in Connecticut and published by the state board of education in 1924. If a teacher receives an annual salary of $1,200 and the school program calls for six periods a day for forty weeks, the formula would be $\frac{\$1,200}{1} \times \frac{1}{40} \times \frac{1}{6} = \$5$ per weekly block for one period a day. Assuming that she is teaching algebra to twenty pupils at this period five times a week we would divide the $5 by 5 times 20, or 100, which gives us five cents, the pupil-hour cost for teaching algebra. Returns were received from 297 teachers and the pupil-hour costs for each subject in each school were obtained in this manner.

Comparison of Great Value

In making a comparative study of this kind the greatest value is found in comparing one group of schools with another. The variations found to exist between groups or between schools may be due to a number of causes, such as differences in teachers' salaries, differences in the teaching load or differences in the size of the classes. By noting where the differences in cost occur, it may be possible to determine the causes for variation in individual schools.

For purposes of comparison the schools were

Girls learning the details of school library work under the guidance of the librarian.

Photograph by Ewing Galloway.

Schools as large as this do not face the problems in instruction costs that confront the smaller institutions.

divided into five groups, the division being an arbitrary one. The divisions were made on a basis of enrollment as follows: Group I, schools having 201 or more pupils; Group II, schools having an enrollment of 151 to 200 pupils; Group III, schools having an enrollment of 101 to 150 pupils; Group IV, schools having an enrollment of 51 to 100 pupils, and Group V, including those schools having an enrollment of from one to 50 pupils.

The five schools enrolling more than 200 pupils were retained in the study for purposes of comparison. At the time of their inclusion in the list of schools to be studied, they were reported by the state department of education to have 200 or fewer pupils.

Table I presents in tabulated form some of the principal factors entering into the instruction costs. If we consider the medians in each group we can get a fair idea of existing conditions.

The median salaries advance with fair consistency as we pass from group to group. The median teaching load, as measured in pupil hours per week, is quite regular in the matter of increases as we read up from Group V to Group I, but in no group does the median teaching load equal 625 pupil-hours per week as recommended for an efficiently organized school.

This figure of 625 pupil-hours per week is computed as follows: The average teacher should instruct five classes per day of twenty-five pupils, giving a daily load of 125 pupils. Meeting these classes five times per week will give us 625 pupil-hours per week. The teachers are instructing five or more classes per day but their teaching load does not measure up to the desired goal due to the controlling factor of class size.

"Pupils Per Teacher" is found by dividing the enrollment of the school by the number of teachers employed. The medians of this factor in-

TABLE I—TEACHERS

	Salary			*Teaching Load*			*Pupils Per Teacher*		
Group	*High*	*Median*	*Low*	*High*	*Median*	*Low*	*High*	*Median*	*Low*
I	$2,100*	$1,500	$1,000	860	565	208	28	24	22
II	2,200*	1,600	1,100	735	490	245	26	23	16
III	1,750	1,500	1,100	465	425	146	24	20	16
IV	2,000†	1,300	1,000	775	376	146	23	16	13
V	1,600	1,350	1,100	537	250	130	13	11	9

*Submaster.
†Coaches of athletics.

TABLE II—CLASS SIZE

	Percentage of Classes Under Each Size							
Group	*1-5*	*6-10*	*11-15*	*16-20*	*21-25*	*26-30*	*31-35*	*36 and Over*
I	01.3	09.6	14.0	16.2	19.2	21.8	10.5	07.4
II	01.4	18.1	18.1	18.8	18.8	18.1	04.7	02.0
III	08.6	16.9	22.7	21.1	13.8	09.2	04.2	03.5
IV	17.2	23.7	23.3	18.3	11.2	03.4	01.7	01.1
V	25.3	38.2	24.7	09.1	01.1	01.6	....	....

crease regularly with the increase in number of pupils enrolled. This factor is also considered in rating the efficiency of the organization of the school.

The small number of pupils per teacher in the case of the smaller schools may be accounted for by the effort made by these schools to give the same variety of courses that the larger schools offer. Every community regardless of size seems determined to prepare its graduates for entrance into Eastern colleges. After this has been provided for and if there is any teacher available, other courses may be offered for those pupils who have neither the desire for nor the means of attending college.

This factor of wide curricular offerings necessarily results in a small number of elections per subject. I hope to be able to set up a program of studies for the small high school that will retain the best features of the present program and yet make possible a more efficient administration of the school and a wiser expenditure of the taxpayers' money. Before considering a proposed program of studies let us consider what would seem to be the most important factor in instruction cost, namely, class size. How small is a "small class"? The answer to this question approaches in difficulty the answer to that classic question, "How old is Ann?" It is rather generally agreed that a teacher may instruct a class of twenty-five pupils without suffering undue strain. In view of this, is it not reasonable to say that any class maintained for ten or less pupils is uneconomical?

In Table II, the number of classes of the various sizes, such as 1-5, 6-10, was tabulated under those headings. Computations were then made showing the percentage that the number of such classes under each heading was of the total number of classes reported for each group of schools.

Combining the percentages listed under the headings of 1-5 and 6-10, we find Group V is maintaining 63.5 per cent of its total number of classes for ten or less pupils; Group IV, 40.9 per cent; Group III, 25.5 per cent; Group II, 19.5 per cent, and Group I, 10.9 per cent. In view of these facts it may well be questioned whether it is advisable or even justifiable to maintain a four-year high school of less than 100 pupils unless the locality is so isolated that it is impossible to send pupils to a high school of good standing. The consolidated or township high schools in operation in some sections of the country offer an apparent solution of this difficulty, but it is doubtful whether New England, with its petty jealousies and local pride, could find two or more towns willing to relinquish absolute control over this phase of public education.

Median Costs Show Efficiency

A study of the median costs of instruction as reported by the schools will throw some light upon the efficiency of the organization of those schools. Table III gives that information. The costs in each school of all classes were arranged in order of rank and the median cost was calculated. It was felt that this median cost would represent the efficiency of the organization of that school. The median costs of each school in the group were then arranged in order of rank and the low median cost, the median median cost and the high median cost were obtained.

TABLE III—MEDIAN COSTS IN CENTS FOR ALL SUBJECTS

Group		*High*	*Median*	*Low*
I	201-...	6.3	5.5	4.5
II	151-200	10.2	6.7	5.4
III	101-150	11.6	8.0	5.3
IV	51-100	18.0	8.9	5.8
V	1-50	21.7	13.8	10.2

There may be some readers who would prefer to use a figure other than the median cost as a measure of the efficiency of the organization of a school, but I could not find any other figure that seemed to serve my purpose so well. Kimball, in his study of the Connecticut high schools, apparently came to the same conclusion, for he made use of the median costs as a measure of the efficiency of the school organization.

In Group I we find that the median costs reported are quite consistent, varying from 4.5 cents to 6.3 cents. In Group II there is a greater variance, from 5.4 cents to 10.2 cents. In Group III the variation is about the same as that for Group II, namely, from 5.3 cents to 11.6 cents. However, in Group IV we note a wide variation, in this case from 5.8 cents to 18.0 cents. No satisfactory explanation for such a great difference can be offered without a thorough study of local conditions. Group V, as might be expected, also shows wide divergence. The median costs for this group vary from 10.2 cents to 21.7 cents.

Table Indicates Subject Costs

Let us examine this table in the light of such a criterion as the median cost of all of the subjects in all of the schools, which was found to be 8.3 cents. The median median cost of 8.9 cents for Group IV is slightly above and the median median cost of 13.8 cents for Group V is considerably above our median of 8.3 cents for all of the subjects in all of the schools.

Going into detail and trying to point out the causes for the variance between the high and low median costs of the various groups, I will pass over Group I for two reasons: First, our study is concerned primarily with schools having an enrollment of 200 pupils or less and, second, the median costs of Group I are so consistent that little information of value would be gained by a critical analysis.

In Group II the school reporting a median cost of 5.4 cents has 26 pupils to each teacher, the highest ratio of pupils to teachers of any school in Group II. This same school maintains only one class of 1 to 5 pupils and five classes of 6 to 10 pupils. The teachers are carrying a median teaching load of 595 pupil-hours, which is 120 more than the median teaching load for all of the teachers in all of the schools reporting and 105 more than the median teaching load of teachers in their group. The median salary of the teachers in this school is $1,250, which is $150 less than the median salary for all of the teachers in all of the schools reporting.

The low median cost of this school, no doubt, is due to the small number of uneconomical classes, the low salary of the teachers, a reasonable teaching load and the high ratio of pupils to teachers. Possibly it does not pay its teachers enough nor employ as many teachers as it should. No teacher in the school receives as much as $1,600, the median salary of the teachers in schools of similar size, and the salary of the principal is the lowest of any principal in his group.

Examining the school in the same group reporting a median cost of 10.2 cents, the highest in the group, by the same criteria we note that the ratio of pupils to teachers is 16, the lowest of any school in the group. It maintains only one class of 1 to 5 pupils, the same as the school with the lowest median cost, but maintains eleven classes of 6 to 10 pupils, or a total of 12 uneconomical classes as opposed to 6 for the school with the low median cost. The median teaching load of the teachers is 498 pupil-hours—8 more than the median teaching load for the group and 23 more than the median teaching load for all of the teachers in all of the schools—which is 97 less than the school with the low median cost. The median salary paid to the teachers in this school is $1,900, which is $300 above the median salary of the teachers in the group, $500 above the median salary for all of the teachers in all of the schools and $650 above the median salary of the teachers in the school reporting the low median cost of 5.4 cents. The salary for the principal is likewise above the median salary of the principals in his group; in fact, it is the highest salary paid any principal in the group.

The high median cost of this school in comparison with the low median cost in the former school, as measured by the four criteria—pupil-teacher ratio, number of uneconomical classes, teaching load and salaries paid to teachers and principals—is due to the lower pupil-teacher ratio, larger number of uneconomical classes, lower teaching load and higher salaries.

Pupil-Teacher Ratio Shown

Let us consider one more case—the schools of Group III that enroll 101-150 pupils. The school reporting a median cost of 5.3 cents, the lowest in the group, has a pupil-teacher ratio of 16, which is also the lowest for this group of schools. There are three classes of 1 to 5 pupils and six classes of 6 to 10 pupils, a total of 9 uneconomical classes. The median teaching load in this school is 364 pupil-hours per week. However, as these teachers are teaching classes that meet but four days each week, it is only fair to translate this figure into one based on classes that meet five days a week. By this computation we obtain a figure of 455 pupil-hours per week, which is 30 more than the median teaching load for the group. The median salary of the teachers is $1,300, which is $200 below the median salary of the teachers in the group and $100 below the median salary of all the teachers in all of the schools in all of the groups. The salary of the principal is $400 above the median salary of the principals in his group.

The low median cost in this school is a little

misleading. It has the lowest pupil-teacher ratio, which would lead us to expect a higher cost. This, however, is offset by the fact that most of its classes meet four days and a few meet five days a week. As a consequence of this fact—classes meeting but four days a week—the teaching load of the teachers is low and would also point toward a higher cost. The salaries of the teachers are decidedly low and tend to hold the costs down. This school furnishes an example of the lack of uniform practice to be found in our high schools.

Teaching Loads Influence Costs

Considering the school that reported a median cost of 11.7 cents, the highest in the group, we find that the ratio of pupils to teachers is 19, one less than the median pupil-teacher ratio of the group and three more than the school with the lowest median cost in the group. This school with the median cost of 11.7 cents maintains four classes of 1 to 5 pupils, and four classes of 6 to 10 pupils, a total of eight uneconomical classes, which is one less than the number found in the school with the low median cost of 5.3 cents. It is evident that the increased cost is not due to this factor. Let us look further. The median teaching load in this school is 338 pupil-hours per week, 26 less than the school with the median cost of 5.3 cents, 87 less than the median teaching load for the group and 137 less than the median teaching load for all of the teachers in all of the schools. The median salary of the teachers in this school is $1,550, or $250 more than the median salary of the teachers in the school with the median cost of 5.3 cents and $50 more than the median salary for all of the teachers in all of the schools. The principal's salary in this school cannot be compared with the salaries of the principals in his group as he reports only that part prorated to his time spent in the high school.

It is quite clear then that in the case of this school the reason for the increased cost is to be found in the lower teaching load and higher salaries paid to the teachers. It is also evident that the real cause for the varying costs of instruction is to be found hidden in the four factors already enumerated and that any one or more of them may throw the costs out of line with the median pupil-hour cost of schools belonging to the same group or with the median pupil-hour cost of all of the schools irrespective of group classification.

These findings are in accord with those of Kimball in his study of the Connecticut high schools. For example, he found that, for the schools having an enrollment of between 100 and 199, corresponding to the schools in Groups II and III, the lowest median cost was 4.6 cents and the highest 10.0. The lowest median cost in Groups II and III is 5.3 cents and the highest 11.6 cents. His median salary paid to teachers is $1,425; that in this study is around $1,400. He reports a median teaching load of 468 pupil-hours a week and we find a median teaching load of approximately 455 to 460 pupil-hours a week. The median ratio of pupils to teachers in his study was 20 and in this study the ratio is around 21 or 22. He notes that these schools of 100 to 199 pupils maintain 21.9 per cent of their classes for less than 10 pupils, while in this study the percentage is found to be somewhat in excess of 30. Classes of 10 pupils and less were included in this study while Kimball counted only those having less than 10 pupils. This would account for a small part of the difference between the results of the two computations.

(To be continued.)

How Colleges Are Serving Their Alumni

College graduates are looking to their colleges for intellectual guidance after graduation, a recent booklet on adult education published by the American Library Association emphasizes. A few universities and colleges have foreseen the trend of events and are serving their alumni by offering reading courses, reading lists, loan libraries, personal advisory service, institutes, intellectual homecomings, vocational guidance and radio programs. Among the colleges offering such service are Amherst, Dartmouth, Lafayette, Mount Union, Pittsburgh University, Smith, Vassar and Wellesley.

Extent of Health Work Influences School Program

A factor influencing the school health program is the extent of the health work that is put into operation at one time. Most programs succeed better if they begin on a small scale, grow gradually and increase their scope from year to year. New ideas are more readily accepted in systems where health supervision has been in operation for some time. Furthermore, the extent to which the program may be developed is dependent upon the money available for that purpose. The old saying, "The best is none too good," is surely applicable here. A simple plan efficiently carried out is better than an extensive program inefficiently conducted.

The General Property Tax and Public-School Support

Because of the confiscatory burdens imposed by the general property tax, the states are gradually waking up to the need for finding other sources of revenue

By J. HOWARD STOUTEMYER, Ph.D., Franklin College, Franklin, Ind.

THE demands for greater expenditures for public schools are becoming increasingly insistent. The growing attendance in high schools and higher institutions is adding to the costs of education because higher priced instructional staffs and more expensive equipment must be provided.

Public schools receive their revenues from the following sources: state, 15 per cent, county, 11.1 per cent and local, 73.9 per cent.[1] In 1922, the forty-eight states derived 83 per cent of their revenues from the general property tax distributed as follows: state, 40.6 per cent, county, 94.7 per cent, townships and districts, 98.7 per cent and incorporated towns and cities, 91.8 per cent.[2] Both school and nonschool expenditures depend chiefly on local property taxes for their maintenance.

In Chapter XV of his recent volume on "Public Finance," Prof. H. L. Lutz, Stanford University, gives the following characteristics of a sound tax system:

1. Fiscal adequacy—it produces sufficient revenue for public purposes.
2. Economy—low cost of administration, small detriment to the production of wealth.
3. Equity—every person pays his just share of the governmental costs.
4. Elasticity—the ability to change according to demands.
5. Simplicity—ease of understanding its workings.
6. Diversity—the number of sources of revenue used.
7. Flexibility—the ease with which the tax system can be modified.

Judged in terms of these seven characteristics, the property tax stands condemned on every point. Depression of property values has left many commonwealths with serious deficits. Property cannot escape assessment as intangibles do. Fixing values for assessment involves no end of inequalities. Since legal limits are placed on the rate, it is inelastic. In many states, constitutional provisions govern this tax and hence it is inflexible. Then, too, it fails to tap all sources of wealth.

In the early days, when every voter was a householder, the property tax was fairly equitable. With the growth of corporate business, forms of wealth not readily assessed developed. The state tax commission of Missouri has estimated that "the value of the intangible wealth is equal, at least, to the value of real estate but that the amount returned for taxation is only 6.7 per cent of that returned for real estate.[3] According to Table I, land values form but 35 per cent of the total wealth in the United States. In 1850, land value constituted three-fifths of the wealth; in 1925 it had decreased to less than two-fifths.

Table I—Land Values and Total Wealth of the United States in Billions of Dollars*

Year	*Total wealth*	*Land value*	*Percentage of total wealth in land*
1850	7 1/7	4½	59.8
1860	14 1/6	8	49.7
1870	30	11½	38.5
1880	43½	16	36.8
1890	65	23	35.1
1900	88½	34	39.4
1910	165	67	40.5
1920	302	113½	37.6
1925	353	122	35.0

*Ely, R. T., The Taxation of Land, Proceedings of the National Tax Association, Vol. XIV, p. 32. Figures for 1925 estimated by the Federal Trade Commission, Quarterly Journal of Economics, November, 1927, Vol. XLII, p. 118.

The comparison of increasing land value and total wealth is shown in Fig. 1. The relation of the exchange value of farm products and nonagricultural products is shown in Fig. 2. After 1919, prices of farm products dropped below par and in 1921 they were but 69 per cent of nonagricultural prices. The upward trend has been slow and halting and is still below prewar levels.

TABLE II—PERCENTAGE OF RENT PAID IN TAXES IN SIX STATES*

State and extent of the survey	*Years covered*	*Percentage*
1. Missouri—seven counties	5-year period, 1919-1923	16.1
2. South Dakota—five counties	8-year period, 1919-1926	33.4
3. Ohio—samplings through the state	10-year period, 1913-1922	30.5
4. Colorado—samplings through the state	3 years 1919, 1923, 1925	31.4
5. North Dakota—three counties	6-year period, 1919-1924	42.0
6. Michigan—samplings through the state	8-year period, 1919-1926	52.4

*Missouri Bulletin No. 93, p. 6; South Dakota Bulletin No. 232, p. 30; Taxation of Farm Lands in Indiana, p. 9; U. S. Department of Agriculture release; North Dakota Bulletin No. 205, p. 15; Michigan Bulletin No. 91, p. 5.

Since assessment has been based on estimated sale value rather than on the production of wealth, taxes have advanced more rapidly than wealth has increased. For example, farm lands in Ohio increased in value 164 per cent from 1910 to 1920; taxes increased 177 per cent. Farm

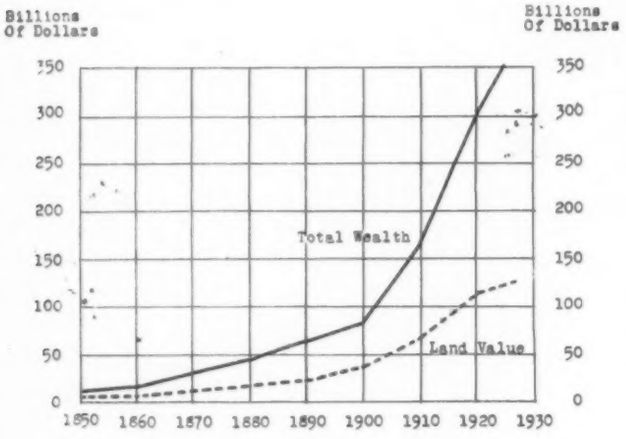

Fig. 1. Comparison of increasing land value and total wealth.

land in Kansas increased in value 155.6 per cent; taxes advanced 271 per cent.[4] From 1914 to 1923, the value of farm products in the United States increased 58 per cent whereas farm taxes increased 140 per cent. Taxes on property in South Dakota increased 166 per cent while farm prices slumped rapidly after 1919. Fig. 3 shows the inelasticity of the property tax as compared with the ability to pay.

Surveys of selected farms made in six states over a period of five to ten years show the percentage of the income paid in taxes. This is shown in Table II.

The United States Department of Agriculture published the results of surveys of rented farms in thirty-one counties in twenty-six states,[5] which showed that half of these counties returned 3 per cent or less after taxes were paid out of the rent. This was in 1919 when farm prices were above par. Another source shows that rates on mortgages and other indebtedness on farms are relatively constant. The return on the operator's capital on all farms was reported as: 5.8 per cent in 1919-1920; 3.1 per cent in 1920-1921; 1.4 per cent in 1921-1922; 1.5 per cent in 1922-1923; 1.4 per cent in 1923-1924.[6] So when farm taxes were at their highest, farm incomes were so small that ability to pay was greatly reduced.

Urban real estate shows little advantage in tax-paying ability over that of farms. A release from the U. S. Department of Agriculture, dated July 16, 1928, states that selected farms in Virginia paid 20 per cent of their incomes in taxes and certain urban real estate in the same counties paid 16 per cent. The percentage of taxes of incomes of rented farms in five counties in South Dakota during the years, 1919 to 1926, was 28.4 while for city real estate in these same counties it was 29.2.[7] A survey of selected farms in three counties in Indiana—Tipton, Miami and Monroe—for a five-year period, from 1919 to 1923, showed the average net return on census valuation to be 3.8 per cent, and the average percentage of the rent paid in taxes to be 32.9, which left a return of 2.5 per cent after paying taxes only. Selected rented properties in Tipton, Peru and Bloomington, the county seats of these coun-

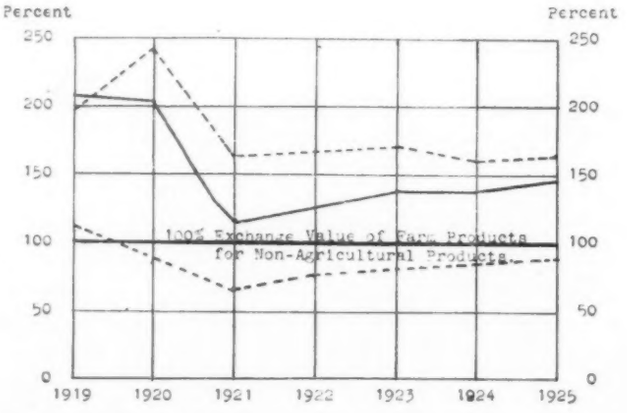

Fig. 2. Relation of the exchange value of farm and nonagricultural products in 1925. (Marquis, J. Clyde, Director of Economic Information, Bureau of Agricultural Economics, U. S. Department of Agriculture).
----------Nonagricultural Products.
————Farm Products.

ties, made a return of 4.6 per cent on census valuation. The taxes absorbed 28.5 per cent, which left a net return of 3.3 per cent after the taxes were paid.[8]

TABLE III—RELATION OF TAXES TO NET PROFITS OF ALL ACTIVE CORPORATIONS IN THE UNITED STATES, 1922*

Corporations	*Before paying taxes*	*After paying taxes*
Agriculture and related industries	65.3	85.7
Mining and quarrying	45.4	62.3
Transportation and public utilities	29.4	37.5
Professions, hotels, amusements, services	28.0	39.9
Banking, insurance	24.0	31.5
Construction	18.4	35.3
Wholesale, retail, trade	16.0	26.2
Total manufactures	13.9	25.4

*Some Tax Problems of North Dakota Farmers, North Dakota Agricultural College Bulletin No. 203, January, 1928, p. 22.

Fig. 4 presents data that show the net income and the percentage of income paid in taxes on farm and city real estate, national banks and corporations. Each paid similar percentages of gross income in taxes, but the gross income on real estate is so small that the net income is but a third to a half of that for banks and corporations. Table III and Fig. 5 show the percentages

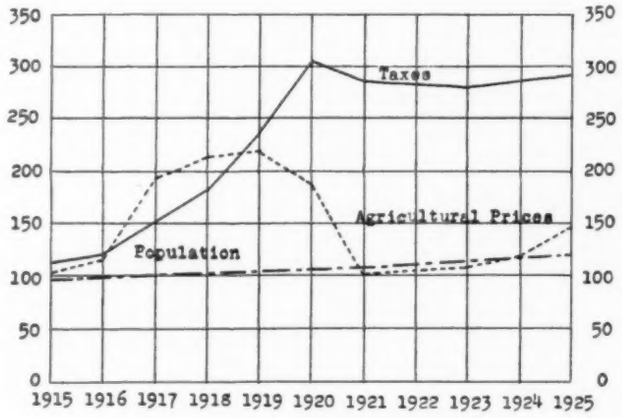

Fig. 3. Indices of direct taxes, farm prices and population, state of South Dakota, 1915-1925. The period from 1911 to 1915, inclusive equals 100.

of the incomes that various corporations paid in taxes in 1922.

Thus manufacturers, the lowest in the list, paid out a fourth of their incomes in taxes; agriculture and allied industries paid out nearly seven-eighths of their incomes. The general property tax in 1922 came perilously near confiscating the income from agriculture and allied industries. F. H. Swift, specialist in school finance, asserts: "The general property tax as levied to-day in the United States is a national scourge. It is driving the farmer from his farm, it is driving the ranchman from his ranch, it is driving the small householder from his home to live in tenements."[9]

As supplements of the general property tax, the Georgia tax commission has recommended a graduated income tax, a graduated inheritance tax and a tax on privileges and occupations. In 1924 a joint committee of the New York legislature recommended that "a large proportion of all taxes may be raised from other sources," and that "the state central government may assume financial responsibility for a greater part of all governmental costs." The costs of the things that the state has delegated to the local units have increased more rapidly than the local revenue system can expand. The taxes for the additional revenues can best be administered by the state. Thus in 1911, California left the general property tax wholly for local purposes. In 1916, Massachusetts provided for certain school funds out of the income tax and other similar taxes. In 1918, North Carolina substituted the income tax for state funds in place of the property tax. In 1922, Ohio discontinued the general property tax for state school revenue. In 1927, Virginia abolished the general property tax for state purposes.

A graduated inheritance tax in some form has been adopted by forty-five states. Its chief weakness is its fiscal inadequacy, its yield being comparatively small.

Public opinion favors the corporation tax, since all but one of the states have adopted it. In

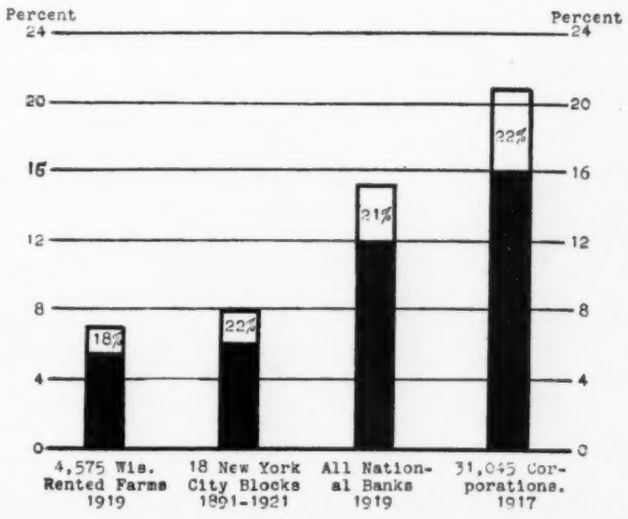

Fig. 4. Land and corporation incomes, showing portion taxed. (Ely, R. T., The Taxation of Land, The National Tax Association, Volume XIV, p. 18.)

fourteen states a portion of this tax is given to the school fund, and in two, the entire levy is thus allotted.

Several states have adopted a severance tax which takes a toll as oil or mineral products are used. Thus Louisiana, the pioneer of this form of taxation, exacts 3 per cent on oil and 2 per cent on all other mineral products. Montana devotes half of this tax to schools and Arkansas one-third. States generally allot a portion of it to the school fund.

Twenty States Use Income Tax

According to the Bureau of Census' report for 1927 twenty states now use the income tax. As a rule small incomes are exempt. The rate runs from 1 per cent in most states up to 6 per cent in the rest. This tax is justified on the basis of ability to pay. Its yield, however, is relatively small, few states raising as much as 10 per cent of their revenues in this way. Since its administration is complicated and its collection has been imperfect, there is a popular demand for some form of the sales tax because of its "certainty, simple operation and real enforcement in startling contrast with the property tax and the income tax."[10]

The most common form of sales tax is the automobile tax, either as a registration, a personal property or a motor fuel tax. Last year these combined taxes raised considerably more than half a billion dollars. During the past decade forty-four states have adopted the gasoline tax. Among some recent comments concerning this tax are the following:

"The tax on gasoline and automobiles for road construction and maintenance is entirely fair. It places the burden for highway construction where it belongs, on the automobile and the user of highways, and not as before on farm land irrespective of its ability to pay."[11] "The gasoline tax has come to be recognized as a fairly accurate and a very convenient method of collecting a toll for the use of the new system of automobile highways."[12]

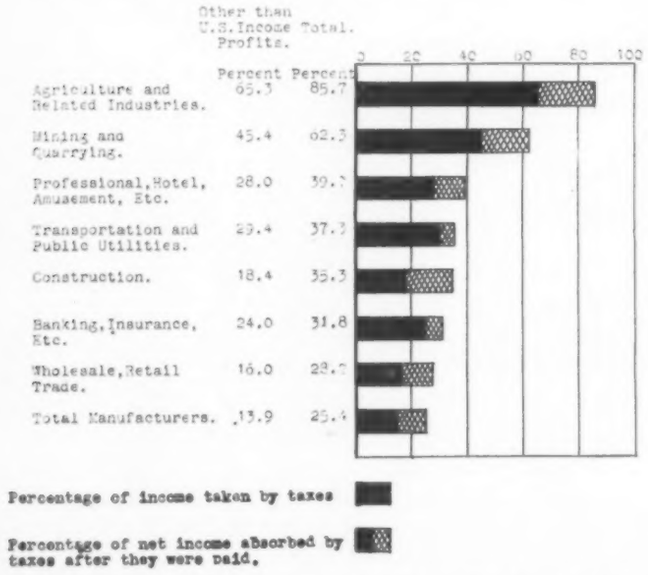

Fig. 5. Relation of taxes, other than federal income and profits taxes, to net profits of corporations, 1922.

Some six or eight years ago, the *American Educational Digest* published the data shown in Fig. 6. Doubtless such an arrangement contains many errors in classification but, for the purposes of the following inferences, the data are deemed adequate: (1) The percentage of the national income spent for the vital institutions—government, education, church—is strikingly small and (2) the percentage spent for luxuries and waste is relatively large. Expenditures for such "superfluities" should bear an equal burden with those for investment, or living, or for the other vital institutions. Hence, a sales tax on such expenditures has been justified.

Adopt Tobacco and Amusement Taxes

For many years the federal government has collected taxes on tobacco, spirits and the like. While this form of taxation was considered the prerogative of the federal government, it is surprising how rapidly the states are adopting it. In 1921, Iowa put a tax on cigarettes and in five years eight other states had adopted a similar measure. South Carolina raises about half of her state revenues by means of an elaborate series of consumption taxes on cigarettes and amusements.

Another form of the sales tax is the gross sales or turnover tax. Its advantages are that it is simple, financially adequate, constant and dependable, easily administered, elastic, flexible and equitable. Jules S. Bache, an ardent advocate, writes: "The one who consumes the most and spends the most pays the most in taxes. It spreads the tax load equitably and in a way most easily borne by all. As it will be passed along to the consumer, millions of people will pay the tax but nobody will know it or feel it. It enables every taxpayer to know his tax liability. It is surer in its incidences, simpler in its application, more productive in results, more economical in its collection and is less a burden upon everybody than any other known form of taxation."[13]

Some Oppose Turnover Tax

The opponents of this tax urge that it is passed on to the consumer, that it raises prices and that it encourages business integration, "giving the self-contained business a prejudicial advantage."

Buehler asserts: "It lays unequal burden on consumers and largely disregards taxpaying ability. . . . The general sales tax is an emergency tax which is tolerated in spite of its evils. It is not in harmony with modern democratic and social trends in politics and economics. It is an antequated method of taxation from the point of view of tax justice. While it roughly disregards the canons of equity, ability to pay and fairness, it is strong in revenue, is flexible within limits and it is practicable of administration."[14]

Canadian Revenue Tax Successful

Canada has had a 2 per cent tax on all sales of manufacturers, wholesalers and importers, but not on the sales of retailers. Its success as a producer of revenue has been such that, according to the *Montreal Herald,* the Montreal Board of Trade was heartily in favor of it. The Toronto *Mail and Empire* states the sales tax is "a painless way of getting a very large revenue," that it raises prices only 2 to 3½ per cent and that it tends "to eliminate unnecessary middle men."[15]

The retail tax has been in successful operation in the Philippines for a number of years. The federal government had a graduated retail tax in force during the World War but it was never a popular measure. While it has many more disadvantages than the turnover tax, pressure for revenue may finally lead to its adoption. It meets the requirements of fiscal adequacy, elasticity, flexibility, equity in some degree and to a lesser extent, it also meets the requirements of economy and simplicity.

Conclusions Are Listed

The following conclusions, then, may be drawn from the foregoing study:

1. The general property tax is inequitable, since the two-fifths of our national wealth vested in real property has had to bear four-fifths of the national tax burden.

2. Being based on estimated sales value instead of income, the general property tax has increased while at the same time ability to pay has decreased.

3. The returns on capital invested in rural and urban real estate have borne a tax burden out of proportion to the returns of other corporations.

4. The general property tax has penalized thrift and savings and has encouraged lavish expenditures for extravagances.

5. There is a demand that state funds be obtained from other sources of revenue and that the property tax be left untouched for local purposes.

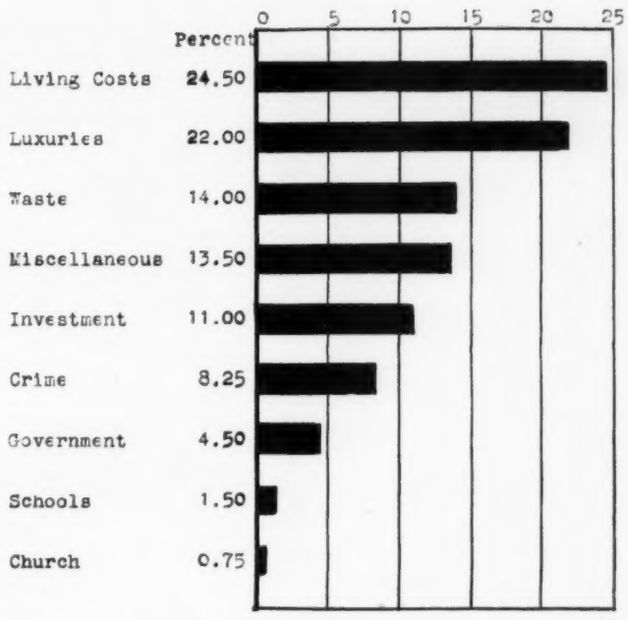

Fig. 6. How we spend our national income. (Adapted from the "American Educational Digest."

6. Graduated income, inheritance, severance, corporation and various kinds of sales taxes have already been adopted by a number of the states.

7. Automobile and gasoline taxes have provided for the construction and the maintenance of improved automobile highways.

8. There is a demand that the state assume an increasingly larger share of public-school support since the public schools are state and not local institutions.

9. This procedure will both lessen the burden of the general property tax and will equalize opportunity for educational facilities throughout the state.

10. Progressive movements in education could then be supported since local opposition, due to confiscatory tax burdens, would no longer exist.

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Editorials

Freedom of the Streets *Versus* All-Year Schools

BEFORE the all-year schools were established, children in the sections they serve spent from two and one-half to three months every summer running the streets. There is no need to tell what kind of a life these children lived under the conditions that surrounded them —streets congested and noisy with traffic and everywhere temptations to disorder and misbehavior. The juvenile courts were clogged every morning with young offenders.

Ask the juvenile court judge in any city in which the children are out of school for three months every summer running the streets and he will say that they are a menace to the peace of the community. Go into the homes in any city in which the children are idle during the summer months. The parents are much concerned with their welfare. They worry about them when they are on the street. They are in danger from traffic; they are in danger from the officers of the law; they are in danger from vicious companionship; there is danger everywhere and parents know it.

One superstition that has persisted in this country in respect to school attendance throughout the year is that children, for their health's sake, need to be set free from mental tasks for three months continuously during the summer. Investigators at Newark, N. J., went into the question of the health of pupils in the all-year schools as compared with pupils who were not in school during the summer, and it was found that the former enjoyed as good health as the latter. Even those who are opposed to all-year schooling acknowledge that school attendance throughout the year is in no way detrimental to health. Those who diagnosed the Newark situation reached the conclusion that children in the all-year schools, especially those in congested districts of the city, are better off physically than they would be if they were out of school during the summer months. The schools, compared with the streets or the homes, are wholesome. They are better ventilated; they are cooler during the heated months, and what is of chief importance, they are very much quieter and more soothing to the nerves of the young.

The city of Newark, like most American cities,

is becoming constantly more congested. Traffic on the streets is becoming more active every year and vastly more noisy. The streets of the city are in a constant hubbub, and the restlessness and nervous excitation cannot be shut out of the homes because they border directly on the streets. Every student of nervous temperament knows that American cities breed nervous tension. How could it be otherwise? When we are out-of-doors we are incessantly stimulated by swiftly moving objects and ceaseless racket. Everyone ought to know that the nervous system cannot become adjusted to unceasing motion and raucous noises without strain and stress.

All-year schools invite the children to come off the streets during the summer into a place that is better adapted to their natures and their needs. There are more interesting things going on in the schools than anywhere outside, not excepting the playgrounds, for the largest part of any day. The children come in contact in the schools with those—the teachers—who are more considerate of and more kindly toward them, and better looking and more agreeable to be with, than most of the people encountered outside of school. And the children are responsive. If there is any skeptic reading these lines, let him walk the streets of Newark for a day and then go into an all-year school and become convinced.

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Promoting Teachers by Classification

IN SOME cities, teachers are classified on the basis of preparatory study and length of service. A teacher falls into a group automatically and moves forward in accordance with the rules and regulations governing promotion. Individual attainments or personality traits play only a minor rôle, and in some places no measurable rôle, in determining the rapidity with which a teacher can attain to a position of prestige or a maximum salary.

Teacher promotion is one of the most vexing problems with which administrative officers have to deal. The danger that politics or favoritism will be used to influence the promotion of teachers is so grave that superintendents have to protect themselves and the school system from unfair methods by establishing and operating an impersonal and more or less mechanical system of promotion.

No one familiar with the effect of an automatic promotion system on individual teachers can doubt that evils flow from it. Teachers who might utilize valuable personality traits in the classroom sometimes come to feel that nothing counts but routine performance of assigned duties, and so they fall short of their possibilities in teaching. Teachers who could become leaders by virtue of fine personality endowments when they enter a certain educational system often become routinized, mechanical and formal in the classroom. The system tends to put a price on formalism in contrast to fresh, spontaneous, original work.

Is there any way that a teacher may be dealt with as an individual and rated according to all the qualities that play a rôle in efficient classroom work and at the same time designing individuals prevented from taking advantage of an elastic and personal system of teacher promotion? If any reader of The NATION'S SCHOOLS has a solution for this problem, he can be of service to his colleagues throughout the country by telling his story in this magazine.

N·S

The School Superintendent as a Financier

THE fiscal problems connected with public education to-day are extremely complicated and extremely important. Education is becoming more elaborate every day. The costs of every item of education, including buildings, equipment, instruction, supervision and administration, are continually increasing.

Taxpayers are beginning to grumble, or at least they are becoming inquisitive about the financial needs of the schools. One can hear laymen in every section of the country say that school expenses must be curtailed. There must be no expansion. The most rigid economy must be practiced that taxes may be reduced or, at least, not increased.

Because of the great expenditures made for education, and also because of the attitude that is being taken by taxpayers toward reducing school expenses, it is imperative that the superintendent and all who are responsible for the administration of the schools should become informed regarding educational finances. It is possible now for any person to become acquainted with the fiscal methods various communities use to provide for the maintenance of their school systems.

A book, just published by Teachers College, Columbia University, New York City, on "School Finance and Business Management Problems," should prove illuminating to superintendents, principals and all others who have anything to do with securing funds for the maintenance of

the schools, or for using the funds when they have been secured. This book was prepared by Prof. N. L. Engelhardt and Prof. Carter Alexander, both of Teachers College. It gives a comprehensive treatment of all the fiscal problems that are likely to be encountered in any community. While the book deals with what some people think is a dry subject, the discussion is presented in a manner that is quite captivating. Actual fiscal problems that have arisen in various communities are first stated, and then the method of handling these problems is worked out concretely.

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Teacher Supply and Demand

A FEW weeks ago those in charge of the training of teachers in normal schools, teachers colleges and universities in different sections of the country were asked whether or not they were able to find places for all the students who had completed training courses and had been certificated to teach in the public schools. The responses are illuminating and also depressing in a way.

No one who replied to the question said that the teachers prepared in his institution had all found work for which they had made preparation and were qualified to undertake. There was a note of anxiety and even of despair in some of the comments made by correspondents. Teachers are piling up on their hands because there is no demand for them. The market is overstocked.

A number of superintendents and principals were asked whether or not they had any difficulty in obtaining teachers. Every one of them responded to the effect that for every vacancy they had dozens of applications. One man said he had hundreds of applicants for every position he needed to fill. The superintendents and principals did not appear to be distressed by this situation. Several of them said frankly that it was a good thing to have a large list from which to make selections, because in this way more capable teachers could be obtained. One man who seemed particularly well pleased because he had a multitude of applicants for every vacancy was asked whether it disturbed him to be obliged to reject a lot of teachers for every one he selected, and he said emphatically that it was not his concern if he did not have a place for every teacher who came to him for a situation.

Probably one ought not to take unto himself the distress of defeated candidates. He should be hard-boiled and cold-blooded. He ought to help the law of survival operate among teachers as it does among animals and plants in a state of nature.

Well, suppose we do not impede the operation of the law of survival in the teaching profession. It is extremely wasteful of the resources of the state to maintain institutions to train a lot of persons who cannot utilize their training in public service. We may infer that substantially 50 per cent of those who have completed a course of teacher training in universities, teachers colleges or normal schools will be out of a job this coming year because there is no need for them. On what basis can such a policy be justified? Why shouldn't this excess be controlled at the source? Medical colleges are curtailing their entrants so that there will not be an over-supply of physicians. It is said that the law schools are planning to restrict their enrollments.

But our teacher-training institutions are striving incessantly to increase their enrollments. The presidents of normal schools, teachers colleges and the deans of university schools of education are applying all the pressure at their command to force students into their respective institutions. Can this policy be defended on the basis of the survival of the fittest or any other basis?

Output Cannot Be Assimilated

In one state there are more teacher-training institutions than the state needs. The output of these institutions cannot be assimilated either in the state or outside. Every institution is struggling for existence and is endeavoring to gain in glory by increasing its enrollment. The situation is already deplorable because the teacher supply greatly exceeds the demand. Even the most cold-blooded survivalist can hardly overlook the fact that when a person has gone on for a number of years training for a profession and making sacrifices himself and compelling his parents to make sacrifices also, and when the state has had to bear part of the expenses that have been incurred in his training, it is economically, socially, psychologically and individually wasteful and pathetic when such an individual cannot utilize the training that he has received. Thousands of such persons are being turned out these days.

The problem under discussion is an extremely complicated one, as Professor Courtis shows in his article published in this issue of The NATION'S SCHOOLS. But we ought not to be rendered helpless by it. We have heretofore found solutions for more difficult educational problems than this one, and if we really appreciated the seriousness of the teacher situation we could undoubtedly find ways to improve it.

What Shall the Busy Executive Read?

Five new books are here reviewed for the administrator who, despite the pressure of school activities, wishes to keep abreast of the best in current thought

By ARTHUR B. MOEHLMAN, Professor of Administration and Supervision, University of Michigan

PRESSURE of administrative activity frequently forces the executive into a position where his outlook is considerably foreshortened. It inclines him to thinking so hard of his specific detailed problems that he tends to lose the vision of the whole. The reasons for such a condition are easily understood. Persisted in for a long period of time this habit tends towards isolation, parochialism and a day to day opportunism that may lead to unfortunate results. These difficulties resulting from administrative pressure are not insurmountable. They may be overcome by the development of a consistent and persistent plan of procedure.

It is first advisable that our public-school executives carefully recognize the dangers of too much preoccupation with detail, of thinking too much in terms of immediate work to be accomplished rather than in light of purpose. The second need is a consistent guiding philosophy of purpose and action. The third need is so to budget time that certain recurring periods are specifically set aside for leisure reading and used to forget the pressure of detail and to make careful appraisal of all activity and practice, judging such practice in terms of our motivating philosophy. These observation periods may be best devoted to the quiet and reflective reading of the written product of creative thinkers who have the leisure and opportunity for study of the problem as a whole, undisturbed by the pressure of routine.

Many Technical Volumes

There is readily available a rather generous stream of publication in the technical field of public education and in the field of general social problems closely related to education. Some of these have greater merit and value than others. Of their final value each reader must be the judge. Among recent books of this nature there are five that have outstanding value to executives and teachers.

Ever since William McAndrew discovered the "Faith of the Fathers" and built a good department of superintendence program upon it, we have been expecting a book upon the subject. It was even hoped that the genial Scot might produce it. Apparently, however, his time has been so taken with the diagnosis of the ills of boards of education that the task fell to other hands. "Have We Kept Faith?" by C. A. Prosser and C. R. Allen is a significant publication in many respects. Both men are authorities in the field of vocational education and have spent many years in formulating and expressing the results of their observations in public education. Prosser, as director of the Dunwoody Industrial Institute, and Allen, as editor and consultant of the Federal Board for Vocational Education, have long been in positions that enabled them to give serious study to the problem developed so interestingly in their recent publication. Their thesis is definitely expressed in the foreword as:

Existing Conditions Analyzed

1. Our present school system is not rendering the service which it can and should render.
2. Its social value can be very greatly increased.
3. This increased social value can be secured without increasing the cost, or at least without greatly increasing the cost, of the schools.
4. The present situation in education is sufficiently acute to call for very decided and immediate changes.
5. It is unsafe for democracy to depend on getting them by the slow process of evolution.

In this, the first of two books upon the subject, the authors make careful analysis of existing conditions. In the contemplated second volume, "Regaining the Faith," they hope to show the specific means by which these objectives may be attained. Their argument opens with a discussion of the faith of the fathers. This faith they present as the following five basic principles:

1. Equality of political opportunity or status.
2. Equality of freedom under the law.
3. Equality of opportunity for each man to make the most of himself—so far as government is concerned.
4. Equality of opportunity for each man to serve the state.
5. Equality of service (opportunity) to all men from the state.

Educational Conflicts Interpreted

Through a series of chapters this thesis is expanded and the conflict between the aristocratic and democratic ideals in education is interpreted. The authors have a specific purpose in their presentation and throughout this development the impartial observer cannot help but feel that selections and quotations have been judiciously made to develop the thesis. Most of the criticisms they make of the public schools generally are not new. They have been made frequently by other leaders. In this presentation many of the quotations appear to meet specifically the beliefs of the authors, yet it is extremely doubtful whether John Dewey, William Kilpatrick, Stuart A. Courtis, Edward Thorndike or Glenn Frank would subscribe to the specific philosophy of life implied. Finally, the objectives of democratic education are summarized as:

1. It maintains and improves the physical condition of the people.
2. It maintains and improves the quality of the coming generation.
3. It promotes those skills and intelligences which conserve and utilize material resources.
4. It promotes the conservation of human resources.
5. It is universal in its contacts and service.
6. It trains people to think up to the limit of their thinking capacity.
7. It selects and trains capable leaders in all lines of endeavor.
8. It establishes and maintains among people a sane and intelligent view regarding national defense.
9. It trains in the fundamental arts of reading, writing and figuring up to the necessary minimum which will enable a citizen to communicate with his fellows and to educate himself.
10. It gains these results by efficient procedures and, therefore, at a minimum social cost of time, effort and material.

Little fault can be found with these statements of objectives except that in the minds of many very important elements have been omitted and some of those presented might be more completely stated. The entire presentation is quite effective. The thesis advanced and established is plausible and even logical. The thoughtful reader will read first for general impressions and then read again for a careful examination of the underlying philosophy. The outcome of the second reading and the acceptance of the book will depend upon the individual philosophy of the reader. After careful examination we will draw several general conclusions in terms of our personal reactions.

There is the unescapable feeling that much is lacking in the underlying philosophy of the authors. Their view of life and the attempt to impress that viewpoint directly upon public education lead to the belief that both are thoroughly imbued with the philosophy of extreme utilitarianism and that the larger or spiritual implications of living have been only casually considered. Their expression is that of extreme mechanization or materialism, except where a clause is parenthetically interpolated. There is a conviction that the authors have mistaken work as an end of life rather than as one of the means through which to secure the blessings of leisure for growth.

While principles and objectives may be accepted, in their incompleteness, as expressing possible laudable objectives yet the impregnation and motivation of these principles with the underlying philosophy of materialism might not be so acceptable as the bald statement of objectives. After all, it is the direction and pointing that are important to a much greater extent than is mere expression. This evaluation is in terms of my own philosophy. Every reader must make similar interpretation for himself. The publication is a significant one and should be carefully read by every school executive and teacher.

Contemporary Education

Paul Klapper's "Contemporary Education" is an entirely different treatment. The author's intent is that it be used primarily as a text for courses in principles of education. This statement of purpose immediately brings it into contrast with the Dewey, Kilpatrick, Coursault, Bode, Chapman and Counts publications. Its organization is, however, radically different. Its treatment is more that of the collector and elaborator than one of original treatment. It does not make the basic contribution of other works in the field. It does not show the vital grasp, the creativeness nor the same type of value of these other works. Yet in its organization there is a plan that makes it, together with much of the material it presents, of decided reading value.

In the preface Doctor Klapper considers education as a secondary or derived study. "It is

conditioned by the findings of the biologist, the physiologist and psychologist. Its principles cannot be evolved or its practices formulated with any degree of accuracy without the sciences concerned with body and mind. The study of education, then, resolves itself into a study of the basic tenets of sociology, economics, psychology, biology and physiology. Its field is, therefore, coextensive with life."

The Function of Education

The first part of the book is devoted to the function of education. After a discussion of various viewpoints, the conclusion is reached "that education, then, is best which gives the individual the freest possible development consistent with social welfare." In the second part the consideration of education as physical adjustment based upon the biological implications mentioned in the preface is discussed, leading to the development of a preventive and corrective health program both through direct and indirect means. The third section considers education as social adjustment. The achievement of these objectives first through the curriculum and second through group activities does not represent the most advanced thought in this field. It may be considered as the traditional alignment in terms of better current practices. There is no implication of the need for the organization of the individual and social aspects of education under all inclusive curricular activity in which all essential elements are considered as two aspects of a general problem. Activities are still "extras." This division is not the strongest in the book.

The fourth part treats education as economic adjustment and is devoted chiefly to the consideration of vocational education, guidance and adjustment. Here the discussion is limited largely to the narrower concept of vocational education upon the so-called lower levels. Finally the last section is devoted to education as mental adjustment considered in two distinct divisions. The first is concerned with the utilization of inherited behavior and the second with the acquisition of new forms of behavior. The second division is generally concerned with a discussion of means for achieving the objectives through school organization and classroom devices.

The Mighty Medicine

Franklin Henry Giddings, always delightfully readable, offers a way out in "The Mighty Medicine." Here is a discussion of current superstition and its antidote, a new liberal education. Giddings starts with the medicine man in primitive society and develops the "magic power" associated with this primitive agent in social reproduction. He states the traditional function of education as the handing down of lore and ritual of the race, starting in the stone age to the rise of Greek civilization. He attempts to show how this tendency has been carried out into modern times. Traditional education, according to him, is the direct descendant of the primitive medicine man with respect to purpose. He also digresses briefly to show the continuation of the occult and of superstition in the folk life of the present day. Finally, the present day need of a new liberal education is shown, functional in conception and dynamic in practice.

The conflict between the old and the new, between "traditional occultism" and dynamic development is frankly stated and its solution dispassionately worked out. The way out is indicated through the process of continual informal education of the individuals in the mass, a continuous informational program, a constructive means of adult education. Logical and sound, the implications are that the new and the functional will be gradually achieved and accepted as the new concepts in simple form are understood and accepted by the people.

In this respect Giddings differs radically from Prosser and Allen who, lacking the wide viewpoint and experience of the sociologist, favor revolution with all the zeal of professional reformers. Giddings' plan for change appears to be more substantial and more sensible. Social change cannot take place overnight. Revolution has generally failed to hold its gains and has been too expensive. "The Mighty Medicine" is stimulating and thought provoking. From the pen (or probably typewriter) of this university professor, it may be startling but generally apt and true.

The Re-Discovery of America

Waldo Frank, journalist, novelist and contributing editor to several of our more thought provoking magazines, offers a significant piece of writing in "The Re-Discovery of America." While not directly written for educators, it is one of those more generalized pieces of work with which no professional teacher can afford to be unfamiliar. Waldo Frank may be classified with the more radical of our writers upon social subjects. With his analysis and reasoning the conservative educator may not be in complete accord. That matters little. No one can thoughtfully read his latest contribution without being struck forcibly by the vital truth of many of his statements.

His method is that of analysis and synthesis. In the first part of the volume he dissects our culture and that of the European nations with rare

skill. He shows logically the gradual decadence, in terms of his thesis, of the old world culture. Our traditions, our history, art and life activities are carefully but clearly analyzed. The reasons for cultural change are compactly given. Our composite nonintegrated background is skillfully presented.

The third part of the book is devoted to a study of the future. In his estimation America is at the crossroads. Her opportunity for building a new culture, one that is basic to our present methods of living and our new controls, is established.

Although the writer appears to us to be more than sympathetic with the cultural plight of the mother countries and with our own situation, the individual who wears a snugly made completed philosophy will be shocked by some of the analysis. While many of Frank's personal points of view may not be readily acceptable his conclusions are well restrained and logically developed.

The American Experiment

Bernard Fay's "The American Experiment," was developed in collaboration with Avery Claflin, an American, whose function appears to be the translation of the brilliant Frenchman's views into English. Unlike many European diagnoses of the United States, it is written in an unbiased scholarly manner that is more reminiscent of Bryce than of many later writers. It is primarily a study of the birth, development and implications of the civilization of the new world. While not an exhaustive and involved study of democratic institutions and organization, the author after developing the background of the race, the territory and the nation picks out salient factors, such as the state, the masses, the social institutions and the American individual for consideration. In terms of these factors he draws a comparison between America and the Old World. Finally, he presents the lesson of America. In it he points out the dangers that confront America and the weaknesses of Europe. He also discusses the possible contribution of the new civilization to the mother culture. The final summation is well developed and in itself is worth the price of the publication. Because of its implications for the avoidance of dangers, its consideration by educational leaders is desirable.

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Reducing Supervision Costs in the Smaller Cities

One of the many problems confronting boards of education and superintendents of schools in the smaller cities is the problem of providing for the efficient and at the same time the economic supervision of instruction, W. S. Deffenbaugh, city-school specialist, Bureau of Education, points out in a special article recently appearing in the *United States Daily.*

Plans for Obtaining Supervision

The plans that he mentions for securing supervision in the smaller cities are: (1) supervision largely by the superintendent of schools without the assistance of supervising principals; (2) general supervision by the superintendent with a supervising principal in charge of each building or of several small buildings; (3) supervision by a primary and a grammar-school grade supervisor for the entire city under the general direction of the superintendent.

The plan to be followed depends upon conditions. In cities from 2,500 to 5,000 population it is doubtful whether the superintendent needs much assistance in the matter of supervision of classroom instruction, especially if he has been trained for such supervision. If he has not, the question may be asked why the board of education selected him. In the small city there are not enough general administrative matters to keep the superintendent busy. If all clerical matters are looked after by a competent clerk, the superintendent in cities up to 5,000 or 10,000 population should have plenty of time to supervise classroom instruction. In other cities the elementary schools should have supervising principals in charge of school buildings having sixteen or more rooms each, but in cities having school buildings of eight or ten rooms each it is very doubtful whether a board of education can justify the expenditure for placing a supervising principal in each school building.

Principal in Each Building

Since the tendency is to erect larger elementary-school buildings and to abandon the small eight-room buildings, the problem of supervision becomes easier of solution since it can be solved by placing a supervising principal in charge of each building. In many cities where there are fewer than thirty teachers all the children could be housed in one building, thus making it possible for the superintendent to do all the supervisory work; that is, if he is well provided with clerical assistance.

Practical School Administration:
Arousing Interest in the School by Means of the Annual Report

By PHILIP LOVEJOY, Assistant Superintendent of Schools, Hamtramck, Mich.

A FEW days ago I received the annual public-school report of one of the larger cities of the United States. This report was for the fiscal year 1927-1928 as of July 1, 1928. Since the report was more than a year old it had lost much of its value as far as current educational appraisal was concerned. As an instrument of local public relations it was behind the times.

The great majority of annual reports that come to my office are from three to six months late. It is true that the archival value of such a report is not deterred yet its public relations aspect is greatly defeated and its value as an instrument of up-to-the-minute appraisal of educational progress is somewhat reduced. In a bank or an industrial corporation a monthly balance sheet becomes of value for analytical purposes when its issue is proximate to the last date of business included in the report. It would seem that an annual public-school report should follow the same principle. If, as in most schools, the fiscal year closes on June 30 it would seem that an annual report would have considerable additional value if issued not later than July 31. Indeed, it appears to me that for every day of issuance earlier than July 31 the report becomes that much more valuable.

Early Issue Advisable

The report of the Hamtramck Public schools for 1928 was issued August 5. That for the year 1929 was issued July 25 and completed on July 20.

Before proceeding further it might be well to argue the usefulness and needs of this volume. To many, it is a useless expense and a waste of time. In "Public-School Relations" the author, Dr. Arthur B. Moehlman, suggests that the annual report has two functions: (1) to present a general survey of current school activities; (2) to be retained for archival purposes.

Certainly a corporation with a capital of several million dollars expects to issue periodic reports on its progress. Can a school system, modern in every respect, do less for its thousands of constituents? What better method of presenting annual progress to the taxpayers and parents could there be than through this general summary, adequately interspersed with graphs and profusely illustrated? Presumably many modern executives shy at this form of public relations due to a memory of ancient public-school reports. Many of these contained several hundred pages, were printed in small type and had no pictures and practically no diagrams. There were profuse statistical tables difficult to interpret and the whole thing seemed to be of value merely in that it represented a task completed. No appraisal of its value was of concern.

Bulky Report Should Be Avoided

Of later days executives have shied at the bulky report. It has been realized that modern business men are always in a rush and have little time to read. Especially now that there is so much material available, a concise annual report must be carefully prepared and carefully written if it is to receive the slightest attention. It must be printed in a type clearly legible, usually a 10 point body well leaded. Covers must be made attractive so that among other volumes it will command attention. However, even in these modern reports pictures have not been introduced in any large measure. Certain of the medium sized cities have made more headway along this line but still there is much room for improvement.

Recently I took from my files at random, nine public-school reports. These were from cities of the Midwest and the Far West. Two reports contained fifty-six pages; one contained seventy-two; one had ninety-six; one had 100; two, 112; one, 142 pages and one, 160 pages. It was noticeable that the fewer the pages the greater the number of pictures. One fifty-six-page report had forty-seven illustrations while the other had thirty-seven. The seventy-two-page report had thirty-seven illustrations while the 160-page report contained but twenty-four. Each of the 112-page reports had few pictures. One had two, each of a building. The other had four, all of which were too small to be understood. The

On this page are shown excellent examples of illustrations depicting real school activities for use in annual reports.

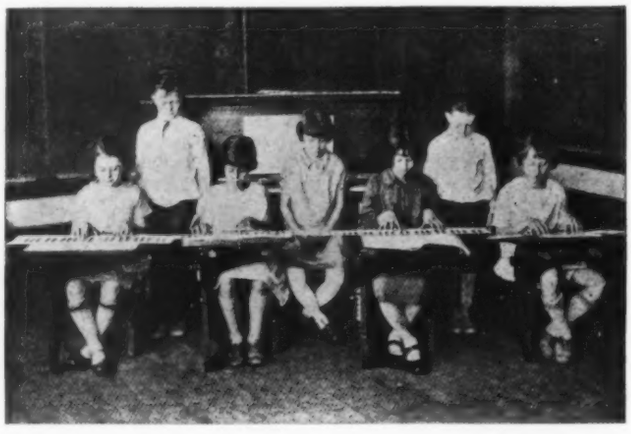
ninety-six-page report had forty-five pictures. The 100-page report had but ten illustrations. While this is too small a number from which to draw final conclusions as to type of annual reports available, yet it does show trends.

To-day it would appear that the better type of public-school annual report will have these characteristics:

1. It will be brief, concisely written and generally will have less than 100 pages.
2. The report will be issued immediately after the close of the fiscal year, preferably within thirty days.
3. It will be attractively printed with at least a 10 point type on 12, it will be about twenty-five ems wide, with paragraphs well opened up. It will have running heads and page numbers.
4. It will have an attractive cover, in color, but not too vivid.
5. The paper stock will be at least a super-calendered paper capable of taking halftones and zincs with equal clarity.
6. It will be preferably 6 by 9 inches in size.
7. It will be profusely illustrated with at least one illustration to three pages of type. One illustration to every two pages is preferable.
8. Its illustrations will feature child activity and will not be smaller than one-half page each.
9. There will be cut lines indicating the instructional activity.
10. Its language will be nontechnical and it will present a fair and accurate picture of current school progress as a whole.
11. Its contents will be carefully organized and it will appear as a well edited unit.
12. The graphs will be clear and will tend to illustrate but a single idea.
13. It will have an index so that material may be found easily.
14. It will be impersonal.

The photograph at the top shows boys engaged in repair work. Below are girls concentrating on a real subject in their child care class.

The chief annual report difficulties facing the superintendent of schools may be grouped as follows: (1) What shall the organization of the report be? (2) What schedule may be used to facilitate early publication? (3) Who will edit the report? (4) What method shall be used for securing pictures? (5) Who will write the report?



Here are shown pupils in a piano class giving close attention to their keyboard charts rather than to the camera.

It would seem that there must first be a dummy or outline of what the report shall include. In Hamtramck, the assistant superintendent in charge of public relations makes out the dummy. For 1929 it was determined to limit the report to seventy-six pages, with fifty-five pages in the body. These fifty-five pages were divided as follows: (1) general summary; (2) progress during the year; (3) instruction—general summary; creative instruction; kindergarten; elementary; special; junior high; senior high; vocational; adult; (4) coordinate activities;

auxiliary agencies; (5) operation and maintenance; the school plant and finance. The last twenty-one pages were devoted to statistics and graphs.

All the material for the first fifty-five pages was in the hands of the assistant superintendent by July 8. Most of the material was in by June 25. Finance was received by July 8. The statistical tables for the last twenty-one pages had been set in type prior to June 30, the school year having closed June 15.

The divisions of the body of the report were written as follows: general summary, by the superintendent; general control, by the assistant superintendent of public relations; instruction—summary, kindergarten, creative and elementary, by the assistant superintendent of instruction; operation, by the assistant superintendent of public relations; junior high, by the principal; senior high, by the principal; adult education, by the evening-school director; balance of report, by the assistant superintendent of public relations, this to be made from compiled statements of the regular heads of the divisions. All tables came from the accountant or director of child accounting.

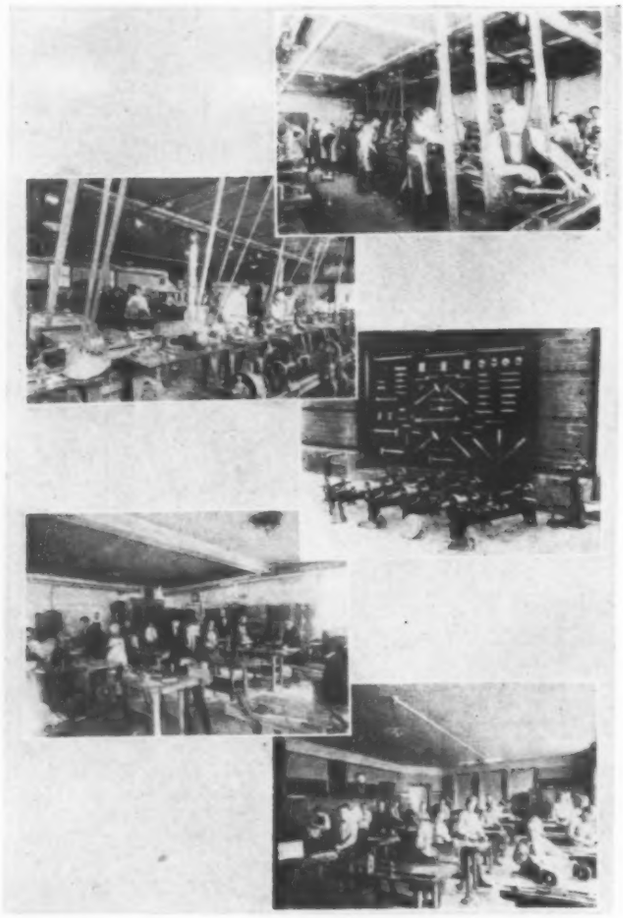
The Hamtramck report is so planned that if one were to read but the first five or six pages he would have a general summary of the entire year's progress. Immediately after the general summary there is a brief chapter devoted to general control and then the bulk of the report sets forth the accomplishments in the instructional field. The beginning of the chapter on instruction again gives a general summary so that were one to read but a few pages he would have the entire picture. The details are given in the subchapters. Statistical tables are placed in the back of the book but are referred to in the body of the report as an aid to those who desire supporting data. The pictures are arranged to follow the text as much as possible.

CHECK SHEET FOR NINE ANNUAL REPORTS

*Size City**	*A*	*D*	*D*	*C*	*A*	*D*	*A*	*C*	*A*
Size Report	6x9	6½x9¾	6x9	6x9	6x9	6x9	6x9	6x9	6x9
Pages in report	112	56	112	56	100	96	160	72	142
Pages in body	52	56	90	36	57	78	102	50	142
Binding	Side stitch	Saddle	Saddle	Saddle	Side	Side	Side	Saddle	Side
Cover color	Gray	Blue	Blue	Blue	Br. Red	Blue	Blue	Green	Blue
Cover attraction	Fair	Good	Fair	Fair	Fair	Good	Fair	Excellent	Good
Paper stock	Super-calendar	M F Book	Enamel	Super	Super	Enamel	Enamel	Super	Super
Size of type	10 on 12 No Contrast	10 pt. solid Contrast	8 pt. Contrast	10 on 12 Contrast	10 on 12 Contrast	10 on 12 Contrast Modern	10 on 12 Good	10 on 12 Good	10 on 12 Contrast Open
Width type line	26 ems	30 ems	21 ems	29 ems	25 ems	25 ems	25 ems	29 ems	24 ems
Number pictures	2	37	4	47	10	45	24	38	7
Quality pictures	Fair	Good	Poor	Excellent	Excellent	Excellent	Excellent	Excellent	Fair
Subject pictures	Bldgs.	Child activity	Small Poor	Child activity	Child activity	Child	Child	Child	Posters
Prevailing size pictures	Full page	½ page	1/10 page	½ page	⅓ page	½ page	⅓ page	½ page	⅓ page
Maps	....	1	....	....	....	....	....	....	....
Number graphs	2	5	0	2	4	3	9	9	7
Diagrams	1	0	0	5	0	4	0	1	0
Number of tables	59 + 7 inserts	15	29	41	60	24	102	30	25
Plans	....	....	....	....	12	4	....	....	....
Question and Answer	1	....	....	....	....	....	....	....	....

*A=more than 500,000.
*B=100,000 to 500,000
*C= 50,000 to 100,000.
*D=less than 50,000.

The assistant superintendent edited the entire publication to make it an impersonal unit. Presses started July 8. Inasmuch as the Hamtramck report is saddle stitched the entire volume has to be carefully planned in advance. The press runs two pages up, the front and the back of the book working each towards the center. For instance, pages 1 and 76 are run together and any two pages making 77 total such as 23 and 54. The



The pictures above, appearing in an annual report, are too small to show the pupil activities effectively. The page also lacked legends explaining the photographs.

press work was planned at three runs a day for twelve days which made the printing complete by July 22. Three days for binding made the date of issue July 25.

Next year the report can be issued by July 15 without rushing.

The Hamtramck method of securing pictures is worthy of note. The 1929 report contains forty-eight photographs. These were taken during the year under the supervision of the regular house organ staff. Certain pictures were used in the Hamtramck Public-School Bulletin. Others were reserved for the annual report. Thus the annual report is planned throughout the year. This cuts down the cost of pictures and makes them available during the year. Local newspapers use them. They are made 100-line zincs. The bulletin uses them and often special reports utilize them. Thus they get three or four runs. Hamtramck desires to keep a pictorial history of all progress within the system. One picture is worth 10,000 words according to an old Chinese proverb and the forty-one nationalities in Hamtramck can translate pictures into their own language with little difficulty. All graphs are drawn by the director of child accounting at the request of the assistant superintendent of public relations. Thus the annual report becomes a cooperative instrument written impersonally, well planned in advance and issued proximate to the close of the fiscal year. The 1928 issue was exhausted four months after publication and the 1929 edition of 1,500 copies is practically gone now.

Those who receive copies include the teachers, all members of the chamber of commerce, Rotary and Exchange, and the newspapers. There is also a mailing list on which appear the names of leading educators, libraries, all educational magazines and those who request to be placed on the list. All delivery is free.

A New Way to Recondition School Desk Tops

A novel way to recondition school desk tops that are so scarred and pitted that the writing surface has been ruined is by the application of a new reinforced rubber desk top made for this express purpose.

The manufacturer supplies these tops in standard sizes, provided with an opening for the inkwell and a groove for the pen and pencil. Their extreme smoothness, together with their density of structure, gives them an excellent, durable writing surface.

One feature that has been remarked on by a state school superintendent who recently examined this top is its antiglare finish which assists materially in the reduction of eye fatigue. Even under the brightest illumination these desk tops will not reflect light rays into the pupils' eyes. The color that lends itself so well to these tops is known as verde antique which has black as its basic color with cream and sea green tints for veinings.

A special method of cementing makes the installation of these tops simple and rapid. In a few hours' time a classroom of desks can be completely recovered and cemented permanently into the desired places.

Index Numbers for School Supply Prices

Slight gain is registered during the past month, although the important elements entering into school supply costs have not shown any great movement in price

By HAROLD F. CLARK, Professor of Education, Teachers College, Columbia University, and JOHN GUY FOWLKES, Professor of Education, University of Wisconsin

THE index of supply prices registered a slight gain during the past month. It does not follow, however, that supplies can be bought at this time at only a small increase in price. The index registers the change in actual cost of the supplies and supply houses may tend to charge more for supplies that cost the same at different times of the year. The index provides a guide to the general trend of supply prices.

Most of the important elements entering into school supply costs have not shown any great movement in price during recent weeks. Paper still remains fairly steady in price. As long as the consumption of paper fails to keep up with production, there is no reason to expect any great increase in the price of paper and as far as actual cost is concerned, buying could be postponed until the material is needed. With the exception of industrial alcohol, the price of chemicals and chemical supplies has shown no tendency to advance. Supplies that are influenced by the price of textiles, rubber or timber should remain fairly constant in price. Iron and steel and their products are fairly steady in price; other metals and metal products show some tendency to decline.

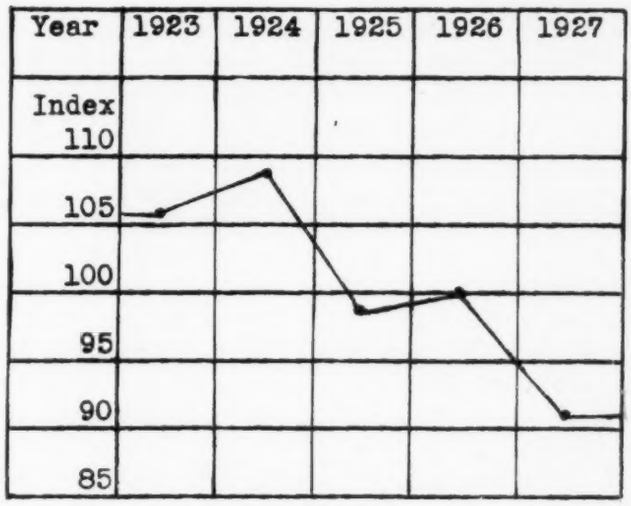


Chart 2. Annual index of the prices of instructional supplies.

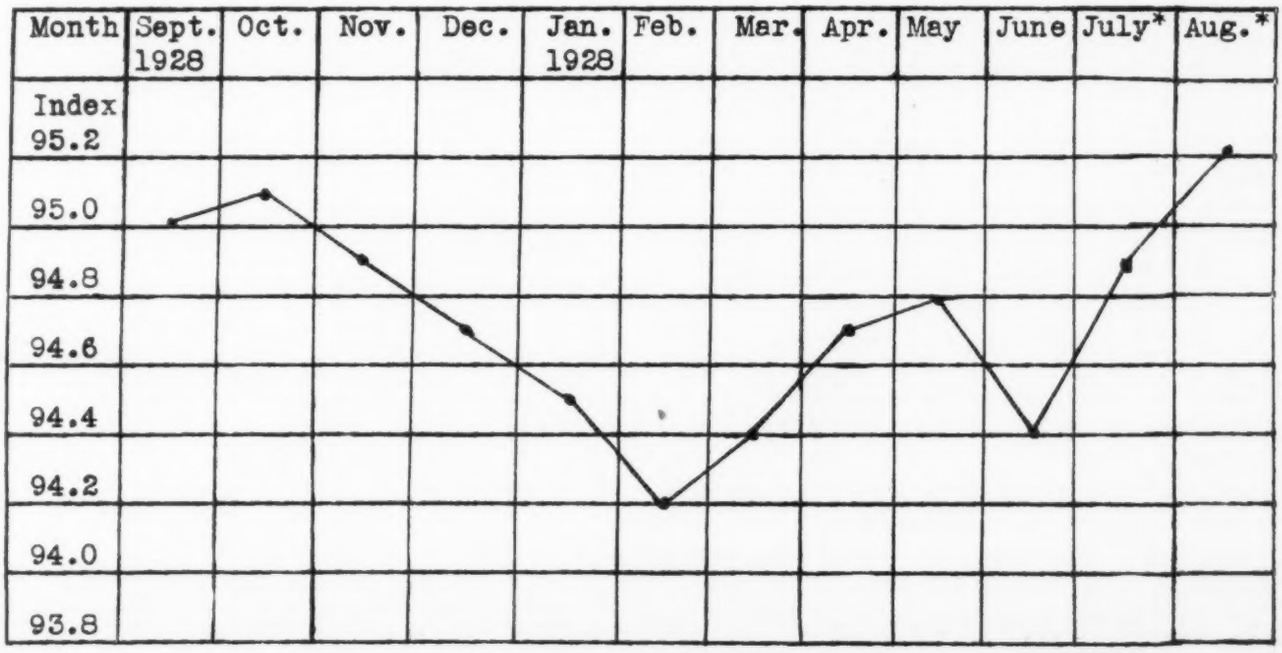


*Chart 1. Monthly index of prices of instructional school supplies. *Not final.*

Your Every-day Problems

JOHN GUY FOWLKES, The University of Wisconsin, Director

This department will be devoted to an informal discussion of problems arising in the every-day life of principals and superintendents. The following discussions are based on answers to inquiries recently received by the director. Similar inquiries are invited and should be addressed to Dr. John Guy Fowlkes, University of Wisconsin, Madison, Wisconsin.

Schedule Making in the High School

Inquiry has recently been made concerning the relative merits of the forty-five minute period and the sixty minute period in high school. Likewise, the question has been raised as to the best procedure for making a school schedule. Immediately upon the use of the term, "school schedule," it is necessary to make clear just what is being described. "School schedule" should refer to the working program of the school as a whole including the programs of teachers and pupils. In light of this definition, "program of study" should be reserved for describing the program of individual pupils.

The advantages of a sixty minute period as opposed to the forty-five minute period are rather generally accepted. The long period makes possible a much more effective utilization of supervised study and also facilitates laboratory and individual conference work. The preliminary work on a school schedule should be done from six to eight weeks before the close of the semester prior to the opening of the school year. Obviously the first step is the selection of the studies that the pupils are going to take the following year. After this has been done, usually through the home room teacher, the actual work of schedule making may be undertaken.

Factors in Making a Schedule

Johnson[1] lists and describes as follows the determining factors that enter into the problem of making a schedule:

1. Number of classrooms available. In most schools the number of classrooms is so limited as to require approximately the same number of classes at each period of the day.

2. Available study room space. Some schools have one or more large study halls which will accommodate the pupils not assigned to recitations. In others, only classrooms are available for this purpose and many pupils may of necessity be assigned to unoccupied seats in rooms in which classes are reciting. It is important that pupils should not be placed during their study periods in large assembly halls which are not furnished with suitable desks and in which the lighting is not adequate for study.

3. Number of teachers and their adaptability to the classes to which they are assigned. Careful discrimination is necessary in the assignment of teachers in order to secure the best results in instruction. It is sometimes important to exercise this discrimination in the choice of teachers for individual pupils.

Longer Recitation Periods Favored

4. Length and number of periods. There is a marked tendency to lengthen the recitation period in order to increase the effectiveness of instruction and to afford time for supervised study. This is to be preferred to the plan of providing for supervised study in special periods at the end of the school day. In some schools double periods are allowed for this purpose in the work of the earlier years. This lengthening of the period is often accompanied by a corresponding increase in the school day; in some cases it results in a reduction in the total number of periods.

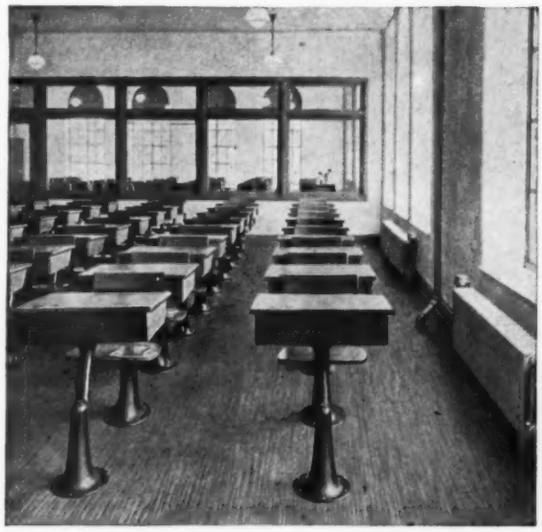
5. Laboratory and shop periods. If double laboratory periods are used, as is the case in most schools, they present considerable difficulty of adjustment. The increasing practice of single laboratory periods, which is based on other considerations than those related to schedule making, simplifies this troublesome factor.

6. Classes meeting fewer than five times a

[1] Johnson, Franklin W., The Administration and Supervision of the High School, Ginn and Company, New York, 1925, p. 284.

Few schools today are as antiquated as the one illustrated here. Yet many still have floors which call to mind the "little red schoolhouse."

Yesterday and TODAY



PICTURED here is a classroom in Regina High School, Norwood, Ohio. 4,465 square yards of *Sealex* Jaspé Linoleum were installed throughout the classroom area of this building together with 4,357 square feet of *Sealex* Treadlite Tile in the corridors.

These attractive Bonded Floors set a new standard in *useful* school decoration. Pleasing color combinations and laid-to-order designs which aid in class formations and serve as "play-floors" and "game-floors" in kindergarten and gymnasium are also obtainable.

WE don't find "period furniture" in the schoolroom, of course, but its appointments and equipment may mark it as belonging to the past quite as plainly as though it were filled with the red plush and horsehair of the Victorian days.

In this progressive age, nothing "dates" a schoolroom as do old-fashioned floors. Today, we have resilient school floors—Bonded Floors of *Sealex* Linoleum and *Sealex* Treadlite Tile (cork-composition). So great an improvement over the old, noisy, unsanitary variety that no comparison is possible!

Their sound-deadening qualities aid concentration. Their resilient surface is pleasant to walk upon. They are sturdy and durable. They insulate against heat and cold. And because they are made by the exclusive *Sealex Process*, they are highly sanitary and easy to clean. Ink, greasy foods, fruit juices—such things are mopped up without a trace of damage from these *spot-proof, stain-proof* floors.

If you are planning a new school or remodeling an old one, write for our booklet entitled, "*Facts You Should Know About Resilient Floors for Schools.*"

BONDED FLOORS

Resilient Floors Backed ISSUED BY U.S. FIDELITY AND GUARANTY CO. *by a Guaranty Bond*

CONGOLEUM-NAIRN INC., 195 BELGROVE DRIVE, KEARNY, N. J. AUTHORIZED CONTRACTORS ARE LOCATED IN PRINCIPAL CITIES

week. Various subjects, such as music, physical training and military drill, usually require but one or two periods a week; some other subjects of the more formal type are given less than five periods. Unless these can be arranged to come at the same period or to alternate with laboratory periods, serious difficulties will result in providing for the widely varying study room requirements on different days.

7. Subjects with only one section. These will be found in considerable number and it will be necessary to employ the utmost care in so placing them that conflicts in pupils' schedules shall not occur. This is likely to prove the most baffling single factor in making the schedule.

Allowances Made for Fatigue

8. The factor of fatigue. While we have very little scientific knowledge regarding fatigue, it is generally assumed that more effective school work can be done at certain periods of the day than at others. Some provision may be made for this in the placing of subjects in the schedule. In making schedules for individual pupils alternation of study and recitations can usually be arranged.

9. Assembly period. In some schools the weekly assembly takes the place of one of the regular periods, rotating through the number of periods in order. An objection to this plan arises from the fact that certain times in the day are better adapted than others to a thoroughly successful assembly. This difficulty may be obviated by holding the assembly at the same hour each day on which it occurs and moving the remaining periods forward or backward to secure the necessary rotation. In some schools the assembly is held at the same hour each week, the periods of the day being equally shortened to provide the necessary time.

There are two basic methods of making a school schedule, the block method and the mosaic method. Inasmuch as the block method is the superior one, Johnson's description[1] of it will be presented here:

"*The block method.* The block method consists in arranging all the recitation sections in nonconflicting groups. In practice it will be found that from five to eight such blocks will be required. These blocks should contain approximately the same number of recitation sections each. Marsh describes a schedule of five blocks containing from twenty-five to twenty-eight sections each, and Richardson describes a similar method employing seven blocks. One who is familiar with school administration will readily see that certain subjects will ordinarily present no chance of conflict; for example, the successive years of foreign language classes. The definite requirement in many schools that only one foreign language may be begun at the same time gives another principle for block making. Different sections of the same subject—for example, English I—naturally will be placed in different blocks, unless, as is now coming to be a common practice, it is desired to place two or more sections of one subject at the same period so that reassignments of pupils may be made on the basis of ability.

"With the blocks arranged there follows the assignment to rooms and teachers. If the blocks are made up of a uniform number of classes, based on the number of rooms available, the assignment of rooms is not difficult. The same may be said with regard to teachers, except that it is not always easy to make the most desirable assignments on the basis of the special adaptability of individual teachers to certain classes.

"For the actual task it is well to make a layout of teachers and rooms on the blackboard or on a large sheet of paper, filling in the blank spaces from the blocks as planned. This process should be accompanied by the use of two tally sheets, one for rooms and the other for teachers, on which a check should be made whenever a teacher or a room is assigned. When the schedule is completed, it should be rechecked throughout to avoid the embarrassment of discovering, when it is put in operation, that two classes have been assigned to the same teacher or room at the same time. It is also wise to submit to each department head the complete schedule of his department for his approval. Experience, however, causes one to hesitate to offer at this point an opportunity for suggestions of changes, since this procedure is likely to be followed by requests that it is impossible to consider in view of the schedule as a whole."

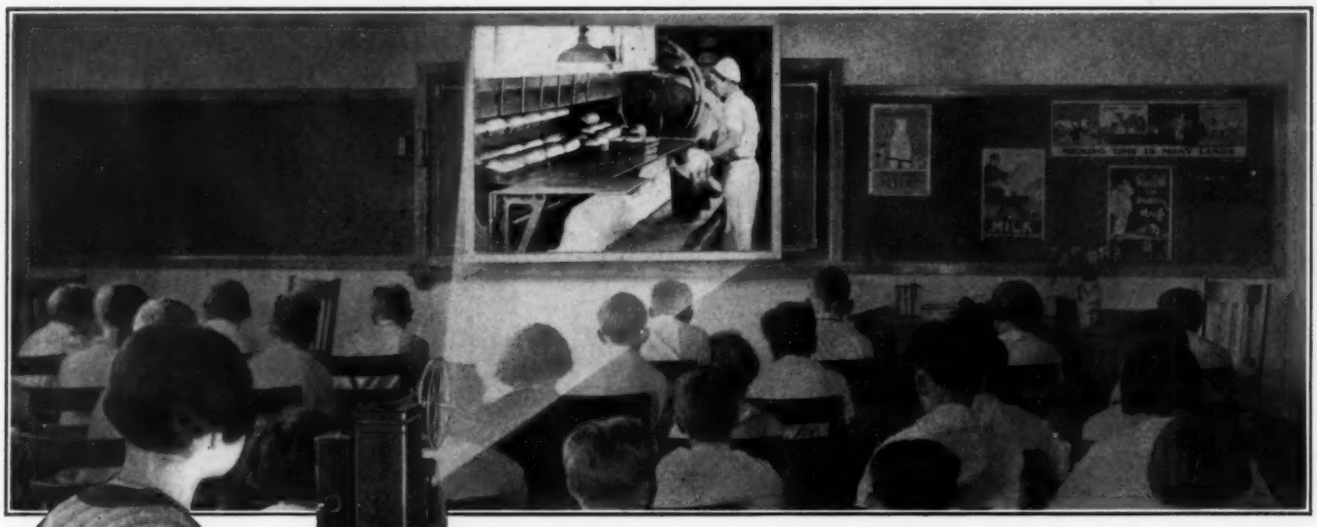
Foster's Schedule Making

The actual process of schedule making has been treated by Foster[1] as follows:

The mechanics of schedule making, especially in large or medium sized high schools, is sure to be wasteful unless systematically undertaken. Two general principles should govern: (1) Proceed from the inflexible to the flexible. For example, the one section subject allows of no flexibility since those who want it must come for it at the one period it is given. This is the first great law. (2) Proceed from the nonadjustable to the adjustable. The senior's program allows

[1] The Administration and Supervision of the High School, page 237.

[1] Foster, Herbert H., High-School Administration, The Century Company, New York, 1928, p. 314.



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of practically no adjustment. What he needs he needs now, whereas the freshman's program can be adjusted. What he cannot get this year may often be postponed to next year. For the small school, with enrollment already completed, the following procedure is helpful:

Procedure for Small School

1. Determine what teachers, classrooms, laboratories and study rooms are available for each period of the day.
2. Determine how many sections are to be given in each course.
3. From the enrollments, list all the irregular combinations such as English I—mathematics II, or Latin IV—botany.
4. List the one section classes that would conflict either for grades or individuals (chemistry —advanced algebra).
5. Block this list; that is, place each class in a block so that conflicts are eliminated, this to be done by changing the enrollment of individuals if necessary. (Block 1, Latin IV—chemistry—English III; block 2, mathematics II—French II—chemistry laboratory and so on.) Bracket together two blocks to be tied into a double period for laboratory.
6. Beginning with senior subjects and working downward, fill in the remaining (nonconflicting) one section classes. In general, place in the same block all the nonconflicting classes of the same grade (year).
7. Beginning with senior work, fill in the two section classes, placing together nonconflicting classes of the same year but not two sections of the same course.
8. Continue with three and four section classes. In these cases, however, it is often better to put two sections in the same block.
9. Arrange the blocks, taking account of double periods, of desirable or objectionable hours for certain studies and so on.
10. Check the schedule by curricula. In other words, trace through the regular work of each grade in each curriculum of the program of studies, watching for general efficiency.
11. Paralleling the above steps, keep a teacher's program sheet, filling in for each teacher the classes as assigned him, thus making it possible to adjust programs to the best interests of the teachers and to prevent program conflicts.
12. Assign classrooms.
13. Place on the board the several lists—one for each period—of classes in each block, arranged preferably by grades. Assemble the advisers, provide each with his advisees' enrollment cards, have each make out a daily schedule for each of his advisees from the tentative schedule and count the number of pupils he has assigned to each class. These numbers, when read aloud, are placed after the corresponding class on the board. Balancing of sections can be made then and there, with the adviser assisting and at the same time looking out for the welfare of his advisees. The final assignment of pupils should be again checked by each adviser at this time. In the very small school where no classes are divided into sections, steps 2, 7 and 8 would obviously be uncalled for.

For further information concerning school schedules, the following references in addition to those previously given will be found helpful:

Deffenbaugh, W. S., Specimen Junior High-School Programs of Study, Bureau of Education, Bulletin, 1923, No. 21.

Edmonson, J. B., Bow, Warren E., and Van Tassell, Irvin, The Daily Schedule in the High School, Bureau of Education Bulletin, 1924, No. 15.

Richardson, M. W., Making a High-School Program, The World Book Company, Yonkers, New York, 1921.

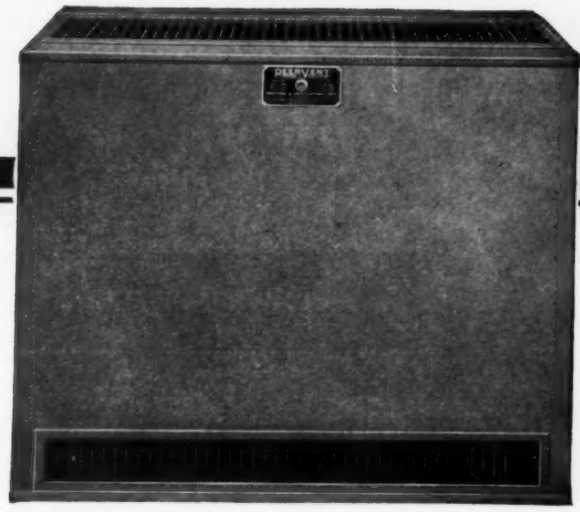
Another Inquiry Concerning School Marks

Recently a letter was received in which reference was made to the discussions of school marks in the January and June, 1929, issues of The NATION'S SCHOOLS, and information was requested as follows: "Have you any explanation of the use of the graph system as used in grading or marking tests, records and reports? If so, I should be very grateful for any information on it. If you have the systems of grading or marking used in New York or Illinois, I should like to have them."

In answer to this inquiry, the following information was given:

The so-called graph system of grading pupil achievement is simply the application of the profile or graph technique to grades that have been assigned on some other basis. The most common basis for the use of the graph system is that of grading in terms of letters or words, either four or five classifications being used. It seems to me that the letter system as described in the January and June, 1929, issues of The NATION'S SCHOOLS is most satisfactory.

Unfortunately, no uniform grading or marking system is in use in any state although efforts are being made in some states to establish a uniform system. Consequently, the request for the Illinois and New York grading systems cannot be met.



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News of the Month

University of Washington Gets School of Aeronautics

The University of Washington, Seattle, Wash., will have one of the first and one of the finest schools of aeronautics in the country as the result of a gift of $290,000 from the Daniel Guggenheim Fund for the Promotion of Aeronautics and an appropriation of $50,000 by the state legislature for equipment, it is announced in *School and Society*.

With this new building, a four-year curriculum leading to a B.S. degree in aeronautical engineering and the establishment of a government ground school on the campus this Fall, the University of Washington expects to take a leading position in the advancement of this branch of learning.

Valuable Property Deeded to Little Rock School

The Donaghey Building and the Federal Bank and Trust Company Building, Little Rock, Ark., have been deeded over to Little Rock Junior College by former Gov. George W. Donaghey, according to announcement made in a recent issue of *Buildings and Building Management*.

The gift provides that the buildings be held in trust for the sole benefit of the Junior College, until now entirely dependent upon tuition fees for its support. The combined value of the two buildings is estimated as between $1,500,000 and $2,000,000.

The trust deed provides that the property be held for the benefit of the college so long as it exists. Management of the two buildings is given to a board of trustees with the provision that, subject to the direction of the board, Governor Donaghey shall retain the management of the property during his lifetime with suitable compensation.

Second Season of Radio Concerts for Schools Is Announced

Walter Damrosch's second season of radio concerts for schools and colleges is scheduled to open October 11, according to recent announcement. Because of the great success of last year's series, the new programs will be expanded and are planned to cover all territory from the Rocky Mountains east. It is expected that the estimated total of two million children listening in to the series last year will be doubled during the coming season, officers state.

Following last year's general plan there will be four series of concerts graded from the third grade through the high schools and colleges. Each series will include twelve programs. There will, however, be a change in the order in which the series are presented. Series A for children in the third and fourth grades, and Series B for grades five and six will be presented on the same Friday. On alternate Fridays Series C for the seventh, eighth and ninth grades and series D for the high schools and colleges will be given.

Mr. Damrosch has worked out entirely new programs for the four series. He has also prepared a teachers' manual of questions and answers, similar to the one used last year to supplement the broadcast.

Indiana Abolishes Second Grade Teaching Licenses

Second grade licenses for grade and high-school teachers will soon be a thing of the past in Indiana, according to a ruling passed recently by the Indiana State Board of Education. The ruling reads:

"No second grade elementary teacher or high-school teacher license shall be offered after November 1, 1929, provided that this regulation shall not be construed to apply to the renewal of second grade licenses already in effect on the above date. The above rule shall be in full effect after the date designated, even though the training for a second grade license may have been completed prior to November 1, 1929."

Under a former regulation of the board approximately half of the schools of Indiana are already working under this rule. The rule was simply made statewide, and requires all teachers to meet a standard that many have already met.

School Center for Colored Children Is Planned

Purchase of a forty-two acre tract adjacent to Kingman Lake in Anacostia Park, Washington, D. C., as a site for two schools and a health center for colored children, has been announced.

A new junior high school, a platoon-type elementary school and a health center similar to one maintained in Washington for white children, are planned.

Notable Gifts and Bequests Made to Schools

Gifts and bequests to various educational institutions throughout the world are listed in a recent issue of *School and Society*.

Among some of the more notable gifts are those of the late Worcester Reed Warner, mechanical engineer, who bequeathed $100,000 to Western Reserve University, $100,000 to the Cleveland School of Arts, $50,000 to the Syrian Protestant College at Beirut, $25,000 to Doshisha College, Kyota, Japan, and $25,000 to the American So-

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News of the Month

ciety of Mechanical Engineers to found a gold medal.

Under the will of the late Marquise Charlotte Elizabeth de Sera, Paris, a bequest of $200,000 is made to Columbia University in memory of her father, Robert Johnston Niven, a graduate of Columbia.

Samuel X. Gaylord has given $200,000 for a recreational and educational center in Detroit for Jewish children, and the seven living children of Lewis Miller, the founder of the Chautauqua Institution, have given $100,000 to commemorate its centenary. Mrs. Thomas Alva Edison is one of the seven children.

Williams College, Williamstown, Mass., receives $25,000 through the will of the late Sidney S. Prince, White Plains, N. Y.

College Installs Floodlights for Outdoor Programs

As part of its 133d annual commencement program, Union College of Schenectady, N. Y., one of the oldest colleges in the country, installed floodlights on many of the college buildings.

Although the lighting effects were intended only for the anniversary program, they were so successful that they have been made permanent, according to *Buildings and Building Management*. The lights will be used on all special occasions in the future.

U. of C. Receives Gift for Lecture Foundation

The University of California will receive about $300,000 through the will of the late Lillie Hitchcock Coit, San Francisco, according to announcement in *School and Society*. The money will be used for the support of the lecture foundation established by Mrs. Coit's father, Charles M. Hitchcock, in 1872.

The will directs that the money be used to increase the endowment of the Hitchcock chair, and that it hereafter be known as the Charles M. and Martha T. Hitchcock chair, in honor of Mrs. Coit's father and mother.

Louvain University Library Is Reopened

The Library of Louvain University, destroyed during the World War, has been reopened, with thousands of new books, gifts from various nations, in place on the shelves, according to an article in a recent issue of *School and Society*.

Germany has replaced 300,000 volumes, including 300 parchment manuscripts of the fifteenth and sixteenth centuries and one manuscript of the eleventh century. The combined international contribution to the university has added 350,000 volumes to the German contribution. Of this collection Great Britain donated 55,000 volumes and France 33,000. Japan collected about 20,000 pounds for the reconstruction of the library. Miss Minn, Boston, has contributed half of her own collection of rare books and has dedicated them to the memory of the fallen. Poland has sent three consignments of rare books.

Chicago Schools Show Low Pupil Cost for Education

Statistics compiled recently by Frank P. Sullivan, director of educational expenditure and economy for the Chicago public schools, show that the average cost of sending Chicago's 500,000 school children to the public schools for one year is $100.02 a pupil.

In the elementary schools the average is $88.51; in the junior high schools, $107.81; and in the senior high schools, $148.72. The general average of $100.72 is more than $13 less than the average of $113.69 expended by thirty-five other leading cities.

New Junior High School Under Construction

A $225,000 junior high-school building is under construction on the Oakhurst school grounds, Clarksdale, Miss. The building will be three stories high. The first story will be finished in Alabama limestone and the second and third stories will be of faced brick trimmed in limestone.

There will be four classrooms, the superintendent's office, principal's office, rest rooms, two science rooms and a cafeteria on the first floor. The second floor will contain a large gymnasium, study hall, library, three classrooms and a teachers' rest room. On the third floor will be six classrooms and the main auditorium.

A separate two-story building will house the heating plant.

Agricultural College Builds New Laboratory

Ground was broken recently for a new laboratory building at the Connecticut Agricultural College, Willimantic, Conn., which will house the research work on animal diseases and breeding.

The new laboratory will not be large but will be complete in detail, it is announced, and will embody the latest ideas on research in equipment. The basement floor will consist of an operating room and space for egg storage and incubators. The two floors above will contain each a large laboratory and a number of offices. Space and equipment will be provided for the preparation of all media, and also for the biochemical work.

Across the rear on the ground level will be a one-story extension providing six separate rooms for experimental animals.

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News of the Month

Funds Donated for Building New Science Hall

In memory of his father, John W. Mackay, Clarence H. Mackay has given $500,000 to the University of Nevada to establish the Mackay Science School, it is announced in *School and Society*. The new school will supplement the Mackay School of Mines and a series of other gifts to the university by Mr. Mackay and his mother.

Mr. Mackay's latest gift brings the total of his contributions to the university to more than $1,500,000 since 1908. The Mackay Memorial was originated in 1907, when Clarence H. Mackay and his mother founded the Mackay School of Mines, the Mackay Athletic Field and the Mackay Training Quarters. They also gave $25,000 to the institution to assist in beautifying the campus and presented a statue in bronze of John W. Mackay by Gutzon Borglum. In 1925 Mr. Mackay started a series of additional gifts of $18,000 a year to the school, and in 1926 he gave $100,000 to enlarge the school of mines building and equipment.

Among other donations to educational institutions made by Mr. Mackay is $100,000 to the University of California as a memorial to his father.

Rochester Schools Equipped with Radio Receiving Sets

Every public and parochial school in Rochester, N. Y., will be able to receive programs broadcast from two junior and two senior high schools this Fall, through the generosity of George Eastman, who celebrated his seventy-fifth birthday recently by installing extensive radio equipment through the school system.

The devices will be in operation when the September school term opens. Broadcasting will be carried on by the high schools by means of remote control through a Rochester radio station, according to an article in *School and Society*.

Building Program Under Way at Princeton University

A building program estimated at $3,100,000, including two new dormitories, a theater, chemistry building, mathematics building and Dickinson recitation hall is under way at Princeton University, it is announced in *School and Society*.

Dickinson Hall will have many rooms for lectures, preceptorials and department offices, and the theater will have all the equipment of a modern playhouse, offices and workrooms for the Triangle Club and lounge and club rooms.

The chemistry building is a $1,500,000 structure and will be ready for dedication immediately following the opening of college in the Fall. The new dormitories, Cuyler and 1903, will not be ready for occupancy until 1930 and will house 164 students.

Work will start soon on the Fine Memorial Mathematics Hall, which will be erected at a cost of $400,000 in memory of the late Henry B. Fine, for many years a professor of mathematics and dean of science at Princeton.

Chicagoan, Class of '55, Wills Money to Northwestern

Horace A. Goodrich, Chicago, who died July 13, willed $11,000 to Northwestern University, where he was a member of the first graduating class in 1855. Mr. Goodrich was ninety-two years old at the time of his death.

In his will $10,000 is left to the Garrett Biblical Institute on the Evanston campus, and $1,000 to the Northwestern University Foundation.

Yankton College Auxiliary Sponsors New Building Group

Yankton College, Pierre, S. D., has undertaken a $650,000 building program that will add five new buildings to its facilities.

The construction will include a new science building, a chapel equipped with organ and chimes, and new dormitories, all being built by the Yankton College auxiliary.

Yankton was founded in 1831 by the Congregational Church of South Dakota as a nonsectarian institution.

Vermont Seminary Abandons Coeducational Program

The coeducational program at Goddard Seminary, Barre, Vt., has been abandoned, according to announcement in a recent issue of *Private School News*, and hereafter the school will accept only girls. George E. Rogers, principal of Goddard the past two years, has accepted a position as teacher of languages and director of recreation at Northwood School, Lake Placid Club, N. Y., and will be succeeded by Melita Knowles, academic secretary, Bancroft School, Worcester, Mass.

Goddard is one of a number of New England schools that has found it advisable to abandon coeducation. Some retained only their girl pupils and others are devoting their attention entirely to boys.

Three New School Units Added to Boston System

Representing an expenditure of $616,000, three new school units will be completed in Boston this Fall, according to a report in *School and Society*. The new structures will give the city a total of 213 school buildings, ranking from the kindergarten to Teachers' College, and about 200 portable buildings.

The new hardware is thru-bolted aluminum alloy gravity type. The new hinge has been subjected to tests equal to ten years service without showing perceptible wear.

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News of the Month

Coming Meetings

Arizona State Educational Association.
President, D. M. Hibner.
Secretary, W. T. Machan, principal, Creighton School, Phoenix.
Delegate meeting, December 26-27.

Arkansas Education Association.
President, J. W. Ramsey, superintendent of schools, Fort Smith.
Executive secretary, H. L. Lambert, 220 Glover Building, Little Rock.
Annual meeting, Little Rock, November 14-16.

California Teachers Association.
President, J. M. Gwinn, superintendent city schools, San Francisco.
Secretary, Roy W. Cloud, 508 Sheldon Building, 461 Market Street, San Francisco.
No general meeting. Bay section, Oakland, December 16-20; central section, Fresno, November 25-27; central coast section, Monterey, December 16-20; northern section, Sacramento, October 14-18; north coast section, Eureka, October 7-9; southern section, Los Angeles, December 16-20.

Florida Education Association.
President, J. W. Norman, University of Florida, Gainesville.
Secretary, R. J. Longstreet, Daytona Beach.
Annual meeting, Pensacola, November 29-30.

Illinois State Teachers Association.
President, George D. Wham, Carbondale.
Secretary, Robert C. Poore, Carlinville.
Annual meeting, Springfield, December 26-28.

Indiana State Teachers Association.
President, Ralph N. Tirey, Bloomington.
Secretary, Charles O. Williams, Room 205, Hotel Lincoln, Indianapolis.
Annual meeting, Indianapolis, October 17-19.

Kansas State Teachers Association.
President, L. W. Brooks, Wichita High School, Wichita.
Secretary, F. L. Pinet, 315 West 10th Street, Topeka.
Annual meetings, Kansas City, Topeka, Salina, Wichita, Dodge City and Independence, October 31, November 1-2.

Louisiana Teachers Association.
President, Amy H. Hinrichs, 7336 Irma Street, New Orleans.
Secretary, P. H. Griffith, Box 541, Baton Rouge.
Annual meeting, Alexandria, November 21-23.

Maine Teachers Association.
President, Thomas P. Packard, superintendent of schools, Houlton.
Secretary, Adelbert W. Gordon, State House, Augusta.
Annual meeting, Portland, October 24-25.

Maryland State Teachers Association.
President, Charles W. Sylvester, City Department of Education, Administration Building, Baltimore.
Secretary, Walter H. Davis, principal, high school, Havre de Grace.
Annual meeting, Baltimore, November 29-30.

Minnesota Education Association.
President, George H. Sandberg, superintendent of schools, Rochester.
Secretary, C. G. Schulz, 162 West College Avenue, St. Paul.
No annual meeting in 1929.
Division meetings: St. Cloud, Thief River Falls, Moorhead, Virginia, Oct. 17-19; Mankato, Winona, St. Paul, Oct. 24-26.

Missouri State Teachers Association.
President, M. G. Neale, dean, school of education, University of Missouri, Columbia.
Secretary, E. M. Carter, Missouri State Teachers Association, Columbia.
Annual meeting, St. Louis, November 13-16.

Montana Education Association.
President, Owen D. Speer, superintendent of schools, Deer Lodge.
Secretary, R. J. Cunningham, Box 217, Helena.
Annual conventions: Bozeman, Great Falls and Miles City.
Delegate assembly, place not determined, December 27-28.

Nebraska State Teachers Association.
President, J. A. Doremus, Aurora.
Secretary, Everett M. Hosman, 511 Richards Block, 11th and O Streets, Lincoln.
Annual meeting, Omaha, Lincoln, Norfolk, Alliance, Holdrege, Kearney, October 30-31 and November 1-2.

New Hampshire State Teachers Association.
President, Dana S. Jordan, Lisbon.
Executive secretary, John W. Condon, Derry.
Annual meeting, Litton, October 4-5.

New Jersey State Teachers Association.
President, Raymond B. Gurley, Cleveland Junior High School, Newark.
Secretary, Charles B. Dyke, Short Hills.
Annual meeting, Atlantic City, November 9-12.

New Mexico Educational Association.
President, J. F. Zimmerman, Albuquerque.
Secretary, John Milne, Albuquerque.
Annual meeting, Albuquerque, November 1-2.

New York State Teachers Association.
President, G. Carl Alverson, superintendent of schools, Syracuse.
Executive secretary, Harlan H. Horner, Box 20, Capitol Station, Albany.
Annual meeting, Syracuse, November 25-26.
District meetings: Northern district, Potsdam, October 10-11; central district, Syracuse, October 24-25; eastern district, Albany, October 24-25; southeastern district, New York City, October 24-25; southern district, Binghamton, November 1-2; central western district, Rochester, November 1-2; western district, Buffalo, November 8-9.

North Dakota Education Association.
President, Huldah L. Winsted, Minot.
Secretary, M. E. McCurdy, 11 Magill Block, Fargo.
Annual meeting, Minot, November.

Oregon State Teachers Association.
President, Julia A. Spooner, Holladay Demonstration School, Portland.
Secretary-treasurer, E. F. Carleton, 301 Behnke-Walker Building, 11th and Salmon Streets, Portland.
Annual meeting, Portland, December 26-28.

Pennsylvania State Education Association.
President, C. R. Foster, State Teachers College, Indiana.
Secretary, J. Herbert Kelley, 400 North Third Street, Harrisburg.
Annual meeting, New Castle, December 26-27.

Rhode Island Institute of Instruction.
President, Mrs. Pearl M. T. Remington, 212 Waterman Avenue, East Providence.
Secretary, Clarence W. Bosworth, principal, Cranston High School, Auburn.
Annual meeting, Providence, October 24-26.

Texas State Teachers Association.
President, Rush M. Caldwell, 2527 Ross Avenue, Dallas.
Secretary, R. T. Ellis, 708 Neil P. Anderson Building, Fort Worth.
Annual meeting, Dallas, November 28-30.

Utah Education Association.
President, Arch M. Thurman, 1042 Ramona Avenue, Salt Lake City.
Secretary, D. W. Parratt, 330 East 21st South, Salt Lake City.
Annual meeting, Salt Lake City, October 17-19.

Vermont State Teachers Association.
President, Clayton L. Erwin, deputy commissioner of education, Montpelier.
Secretary, Marion C. Parkhurst, 323 Pearl Street, Burlington.
Annual meeting, Burlington, October 10-12.

Virginia Education Association.
President, R. W. House, principal of schools, Prospect.
Secretary, Cornelius J. Heatwole, Room 1, State Capitol, Richmond.
Annual meeting, Richmond, November 27-30.

Washington Education Association.
President, C. Paine Shangle, superintendent of schools, Sedro-Woolley.
Secretary, Arthur L. Marsh, 707 Lowman Building, Seattle.
Annual meeting, Seattle, October 24-25.
Representative assembly, October 26.

West Virginia State Education Association.
President, J. F. Marsh, state department of education, Charleston.
Secretary, J. H. Hickman, rooms 403-405, Capital City Bank Building, Charleston.
Annual meeting, Huntington, October 31, November 1-2.

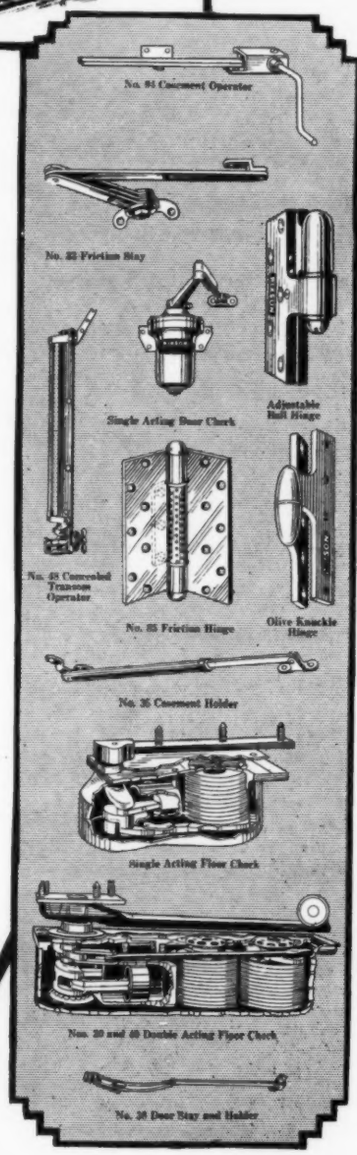
Wisconsin Teachers Association.
President, Merle C. Palmer, Columbus.
Secretary, B. E. McCormick, 716 Beaver Building, Madison.
Annual meeting, Milwaukee, November 7-9.

Wyoming State Teachers Association.
President, L. C. Tidball, Cheyenne.
Secretary, B. H. McIntosh, principal, high school, Cheyenne.
Annual meeting, Thermopolis, October 9-11.

Rixson Everywhere

NAMING buildings in which one or more articles of Rixson Hardware are used throughout, it seems Rixson is everywhere. Looking from a tower window in practically any big city we could point out, "That one, that, that and that" — and so on, in rather an impressive way.

Yet Rixson Hardware is not literally everywhere. You simply find the well-known trademark oftener than most, and where you find it you discover one installation has be-


No. 84 Casement Operator
No. 32 Friction Stay
Single Acting Door Check
Adjustable Butt Hinge
No. 48 Concealed Transom Operator
No. 85 Friction Hinge
Olive Knuckle Hinge
No. 36 Casement Holder
Single Acting Floor Check
Nos. 20 and 40 Double Acting Floor Check
No. 38 Door Stay and Holder

gotten companion installations all 'round it.

This is why in many architects' minds the phrase "of course" seems to belong with the specification of Rixson Hardware. "In this building we'll use Rixson Floor Checks,—of course."

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RIXSON

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Improved Mechanisms in Builders' Hardware

In the Educational Field

H. PAUL KELSAY, principal, will succeed GEORGE H. TELLE as superintendent of schools at Hartford City, Ind.

JESSE H. EILAR has been elected superintendent of schools, Henry County, Ind. MR. EILAR has been acting superintendent for the past three years, having filled the unexpired term of the late HARRY ROBERTS.

CLARENCE ORR, formerly principal, Township High School, Winchester, Ill., has been elected to the faculty of the Illinois State Normal University, Normal, Ill. MR. ORR'S work will be in the department of secondary education. EUGENE MELL, for the past year principal, Township High School, Girard, Ill., has been elected to the principalship of the Winchester High School.

B. F. SHAFER, superintendent of public schools, Jacksonville, Ill., for the past nine years, has been elected to the superintendency of city schools at Freeport, Ill. F. W. PHILLIPS, superintendent, Freeport schools, resigned to accept the position of superintendent of schools at De Kalb, Ill.

OTIS BROWN, who spent the past year in advanced study at Illinois College, Jacksonville, Ill., has been appointed as superintendent of schools at McLean, Ill. LLOYD L. HARGIS, formerly head of the schools at McLean, has been elected to take charge of the Township High School at Mt. Pulaski, Ill.

HAROLD AXE, formerly principal of the high school at Bicknell, Ind., has been chosen superintendent of the Bicknell schools to succeed J. K. MCCARTER, who resigned to accept the superintendency of the West Terre Haute schools.

H. E. BINFORD, principal of the high school, Bloomington, Ind., has resigned to become director of secondary schools at Louisville, Ky.

D. L. DOWNING, principal of schools, Van Buren Township, Clay County, Ind., has been elected superintendent of the Covington-Troy Township consolidated schools, Fountain County, Ind. He succeeds H. C. WYSONG, resigned.

J. M. SELLERS, principal of the Williams, Lawrence County schools, Ind., has been elected superintendent of schools at Thornton, Ind., succeeding FLOYD I. MCMURRAY, who resigned to accept the superintendency of the Boone County schools.

JOHN W. JONES, superintendent of schools, Blair, Okla., has been elected superintendent of schools at Boswell, Okla., succeeding J. M. GOIN.

F. H. PATTERSON, superintendent of schools, Parks, Tex., has been chosen superintendent of schools at Westbrook, Tex., for next year.

DON MAY, superintendent of schools, Willow City, N. D., has accepted the superintendency of the Rock Valley, Iowa, schools.

C. A. SPACHT, superintendent of schools, Bellevue, Neb., has been elected president of the new Bellevue Junior College.

R. C. COMER, Grantville, Ga., has been chosen superintendent of the high school at Midville, Ga.

H. F. FLAUGHER, former superintendent of schools, Guthrie, Okla., has been elected superintendent of schools at Chandler, Okla.

THOMAS C. BURTON, formerly head master, American School, Paris, has been appointed principal of Staten Island Academy, a country day school.

WILLIS POND has been elected to the superintendency of the Woodstock, Ohio, schools.

LESTER O. LITLE, superintendent of schools, Stafford, Mo., will head the Bolivar schools next Fall.

WILLIAM B. FEATHERSTONE, superintendent of schools, Evanston, Utah, for the past four years, has resigned.

E. R. VAN KLEECK, known as the youngest superintendent in the state of New York, has been reelected superintendent of schools, Walden, N. Y. MR. VAN KLEECK is twenty-two years old.

NEIL M. GOOD formerly principal of the Wabash Junior High School, Wabash, Ind., has been elected superintendent of the Wabash County schools.

WILBUR F. HAGEN has been appointed superintendent of the Allendale public school, Allendale, S. C. He succeeds THOMAS E. CRANE, who recently resigned, after sixteen years of service, to go into business.

T. L. EVERETT has been elected superintendent of the Waresboro Consolidated School, Waycross, Ga.

W. O. LIPPITT, superintendent of schools, Fergus Falls, Minn., for the past twelve years, has resigned to become superintendent of schools at Westwood, N. J.

H. G. VICK has become superintendent of schools at Lewisville, Tex.

A. J. GIBSON, former principal, East Fairmont High School, Fairmont, W. Va., has been named district superintendent of the schools of Union Independent District, W. Va., to succeed W. A. HUSTEAD, resigned.

ERNEST M. TOWNSEND, former superintendent of schools, Millville, N. J., has been appointed as principal of the Newark Normal School, Newark, N. J. MR. TOWNSEND has served as assistant state commissioner of elementary education for New Jersey since last September and upon assuming his new duties will be succeeded in that office by JOHN SPARGO, East Orange.

A. GEORGE RUDOLPH, superintendent of schools, Ollie, Mont., for the past three years, has resigned to go into business. He will be succeeded by ALFRED PARKER, Fromberg, Mont.

EMMETT U. AUMILLER, assistant superintendent, Lancaster County schools, Pennsylvania, has resigned after fifty years of service in the public schools.

ALFRED E. GRANT, instructor in mathematics, Pine High School, Ansonia, Conn., has been elected superintendent of schools at Farmington, Conn. He succeeds W. H. MANDREY, who resigned in June.

CINOPLATE

The Twentieth Century Blackboard

Like

THE GRAF ZEPPELIN

TRIED and PROVEN

ECONOMICAL TO INSTALL—IMPERVIOUS TO MOISTURE

NON-WARPING NON-BUCKLING INTERMINABLE

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CINOPLATE has proven to be particularly attractive in sections of the country where there is an extreme moisture content of the atmosphere. The absence of foreign chemicals in the foundation of CINOPLATE removes the fear of disastrous results heretofore experienced in some of the asbestos-cement blackboards, caused by chemical reactions within the foundation.

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CINOBESTOS CERTIFICATE BLACKBOARD is made with a foundation of long asbestos fibres and Portland cement, pressed into dense, homogeneous sheets by a process of lamination. The process of manufacturing these sheets is regulated by formula, so that each and every sheet is identical, thereby offering a standard product at all times. Because of the Portland cement, CINOBESTOS will grow harder as it grows older.

CINOBOARD

The foundation, or backing, of CINOBOARD is of special, selected, long wood fibres, combined into a pulp and then laminated into a board that will lie flat and will last indefinitely with proper care. Each panel is individually and scientifically kiln-cured, and waterproof, and further treated under our own special processes. CINOBOARD has an especial appeal to the contractor because of the ease it offers in handling and cutting.

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THE VALLEYCO COMPANY, INC.

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In the Educational Field

RICHARD E. E. CAMPBELL has been appointed superintendent of schools at Coventry, R. I., succeeding JOHN H. BAILEY, JR., resigned. MR. CAMPBELL formerly was superintendent of schools at New Shoreham, Block Island.

WALTER E. GUSHEE, superintendent of schools, Ludlow, Mass., for twenty-six years, recently resigned to enter business. RICHARD D. TUCKER has been appointed to succeed him.

DR. ORWIN BRADFORD GRIFFIN, former instructor in English at the Hartford Public High School, Hartford, Conn., and for nine years submaster and head of the English department, Wilby High School, Waterbury, Conn., has been named as superintendent of schools at Litchfield, Conn.

VERNON W. BARNES, for the past five years superintendent of schools at Newport, Ohio, has resigned to accept the principalship of the high school at Jackson, Ohio.

M. S. LOVELACE, Manson, Wash., has been elected superintendent of schools at Finley, Wash.

A. W. WALLIN, Spokane, Wash., has been chosen superintendent of schools at Hover, Wash.

EMMA M. CAULFIELD, formerly principal of the high school at Cumberland, R. I., has been elected superintendent of the Cumberland schools, succeeding IRVING C. MITCHELL, retired.

DR. RALPH YAKEL has resumed the duties of superintendent of schools at Jacksonville, Ill. DOCTOR YAKEL took his Ph.D. degree from Columbia University last June, but has been engaged in school work for a number of years, having served as superintendent of schools at Paducah, Ky., for seven years.

A. E. GRONEWALD, The Dalles, Ore., county superintendent of schools, Wasco County, was drowned recently when he attempted to rescue his ten-year-old son who had fallen into the Deschutes River while fishing.

FRANK E. SHAW, superintendent of schools, Vale, Ore., for four years, has resigned to accept the principalship of the Union High School, Hermiston, Ore. The vacancy at Vale will be filled by HOWARD M. JAMES, principal of the Union High School, Pilot Rock, Ore., for five years.

DR. A. R. TAYLOR, eighty-two-year-old president emeritus of James Millikin University, Decatur, Ill., and former president of the Kansas State Teachers' College, died at his home in Decatur recently.

GEORGE TUCKER, formerly a teacher at Landers, Wyo., has been elected superintendent of schools at Lexington, Ore.

C. L. NELSON, head of the schools at Willamina, Ore., has accepted the principalship of the Union High School, Madras, Ore. The Willamina superintendency will be filled by V. M. PATTERSON, who has held principalships at Long Creek, Monument and Jordan Valley, Ore.

WARD HAMMERSLY, principal of schools, North Powder, Ore., for two years, has been elected superintendent of schools at Boardman, Ore. He is succeeded at North Powder by WILLIAM KRATT, a teacher in the North Powder High School last year.

MELVIN F. JOHNSTON has been elected superintendent of schools at Estacada, Ore. MR. JOHNSTON was superintendent of schools at Lexington, Ore., for three years.

DR. ORWIN BRADFORD GRIFFIN, Waterbury, Conn., has been elected superintendent of schools, Litchfield, Conn., to succeed STEWART ESTEN.

FRANK O. EVANS, formerly superintendent of schools, Prosser, Wash., has been appointed director of administrative research in the Los Angeles school department.

J. R. BULLINGTON, superintendent of schools, Ashdown, Ark., has become principal of the West Side Junior High School, Little Rock, Ark. BEN R. WILLIAMS, former assistant superintendent of schools, Batesville, Ark., takes MR. BULLINGTON'S place at Ashdown.

T. W. WATKINS, head master of Kent's Hill Seminary for six years, has been appointed principal of the Tilton School, Tilton, N. H., to succeed GEORGE L. PLIMPTON. He will be succeeded at the seminary by EDWARD WINSLOW HINCKS, formerly assistant head master, Thayer Academy, Braintree, Mass.

JAMES M. MCNAMARA, a teacher in the Fitchburg, Mass., schools for the past twenty years, and principal of the B. F. Brown Junior High School, for the past four years, has been elected superintendent of the Fitchburg schools. DR. BRUCE F. JEFFERY, assistant principal of the senior high school, was elected to fill the vacancy caused by the promotion of MR. MCNAMARA.

E. C. HARTWELL has been unanimously reelected superintendent of schools at Buffalo, N. Y.

DR. PAUL R. SPENCER, professor of education, George Peabody College for Teachers, Nashville, Tenn., has been elected superintendent of schools at Peekskill, N. Y.

T. H. COBB, Mt. Carmel, Ill., has been elected superintendent of schools at Urbana, Ill. He succeeds M. L. FLANINGHAM.

CHARLES E. MCCORKLE, superintendent of schools, Kenmore, Ohio, for the past ten years, has been elected superintendent of schools at Morgantown, West Va.

FRANK GARDNER HALL, head master, Mitcham County Secondary School, Surrey, England, has been chosen head master of Ashton-in-Makerfield Grammar School, Wigan. MR. HALL was selected from 136 candidates.

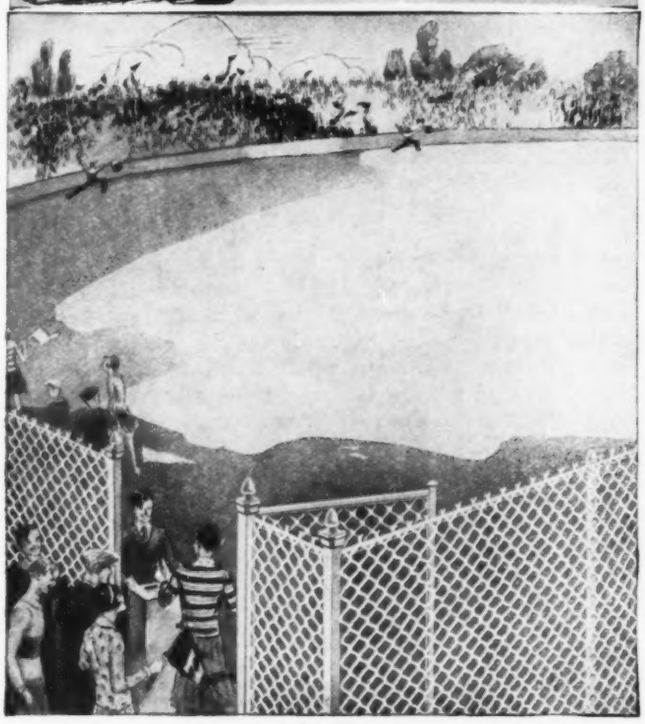
CLARENCE CHAMBERLAIN has accepted the superintendency of the Elsinore schools, Riverside County, Calif.

J. R. CROAD, superintendent of schools, Calastoga, Calif., has been elected principal of the Sierra elementary school, Sacramento, Calif.

W. A. OLIVER will head the school at Hebbronville, Tex., this year, succeeding J. FRANK MCGEE.

School Athletics

can be placed on a paying basis . .



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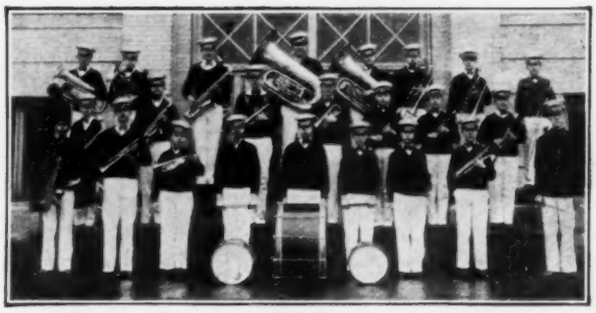
ANCHOR Fences



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H. B. Leighty, Director

Why Not Have a School Band?

It's Easy to Start One with Our Help

There is nothing like a School Band to foster the school spirit, and to provide a sane outlet for youthful enthusiasms. Instructors find the organization of such a friendly group a real aid in promoting school discipline and directly beneficial in bettering grades.

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In your school you have many students with some musical foundation—also others who would learn to play some instrument easily. You have many parents who would welcome such a movement and who would gladly provide their children with the necessary instruments. With our help both instruments and instructors are easily secured.

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Our Services Offered Free

Buescher Instruments are played by America's leading orchestras and bands. We offer any superintendent the benefit of our many years of experience in helping organize musical groups in schools. It is only necessary for someone to take the initiative. Why not do this for your school?

With our help you will be surprised to find how easily it may be done. The first step is to write us for information blank, which when filled out and returned will tell us the number and kinds of instruments already available in your school, the number of pupils that may be interested. We can then advise whether band, orchestra or smaller group should be organized and what instruments will complete the most effective organization.

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Gentlemen: I am interested in securing your catalog and information about starting a school band. (536)

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Address.....

News of the Month

Needy Girls Will Be Helped

Dr. Lucinda Templin, principal of the El Paso, Tex., School for Girls, has been made trustee of a $25,000 fund given by Mrs. G. A. Radford, Webster Grove, Mo., for use in educational work.

The gift was made with no specifications as to how the money should be distributed, that matter being left to the discretion and wishes of Doctor Templin, according to an announcement in the *Journal of Education.* Doctor Templin may use the money for the benefit of any school with which she is connected and has announced that she will parcel the money among needy pupils, giving the money outright.

Tuition Fees Provide Fund for School Structure

A $52,000 school building, to be paid for with money raised from tuition fees of nonresident pupils, is under construction at Aurora, Neb. The structure is said to be one of the few in the state to be built without the necessity of a bond issue.

The building will be a two-story structure, with a gymnasium and an auditorium to seat 900.

Education Week to Be Observed in November

The special week in 1929 set aside for education is November 11-17. Committees are now beginning to plan programs for its celebration. The purpose of this week is to acquaint the public with the work of the schools, with their ideals, their achievements and their needs. The public school, during this week, is made the theme of the press, the platform, the pulpit and other agencies.

Indian Children to Attend White Pupils' Schools

In the belief that closer association with white people will hasten the Indian's assimilation of American principles and modes of living, and lowering of the taxpayers' burden, the United States Department of the Interior has announced that Indian children will be encouraged to enter white public schools in preference to separate institutions for their education throughout the West.

In California, Wisconsin, Minnesota, Michigan, Montana, Washington and Oregon, the Indian population generally is quite intimately mixed with the whites, it is stated, and in Oklahoma about 60 per cent of Indian children are in public schools.

White public schools are within easy reach of many Indians in the West, the department stated, and increasing attendance would benefit the Indians and render the expense of separate institutions unnecessary.

The department's statement in part, follows:

"Wherever Indian children can find places in public schools, according to instructions that have been sent out from the Department of the Interior to superintendents and supervisors in the Indian Service, they are to attend such schools instead of those institutions throughout the West that have been created especially for the purpose of educating them.

"Indian children applying for enrollment in Indian schools this Fall will be required to fill out a questionnaire which furnishes a picture of the home situation, family resources, distance from public school, nature of that school, and reasons for not attending it. If it appears that the child should go to the public school it is not to be admitted into the Indian school.

"This principle has been applied in the past in certain localities, but under the policy of Secretary Wilbur, who holds that closer contact with the whites and assimilation should be the guiding policy of the department, it is to be more rigorously enforced. In the State of Oklahoma, 60 per cent of Indian children are in public schools, and it is held that equal or greater percentages of them might attend these schools in many other communities.

"In California, Wisconsin, Minnesota, Michigan, Montana, Washington and Oregon, for instance, the Indian population is generally quite intimately mixed with the whites. The schools of the whites are within reach of many Indians. Under the circumstances it is held, in fact, to be uneconomical that the money of the taxpayer should be spent in maintaining separate institutions for them."

Indiana State Normal Gets New Buildings

Three new buildings will be ready for occupancy when the Fall term opens at Indiana State Normal College at Terre Haute, it is announced in the *Journal of Education.* One of the buildings is a heating plant costing $93,000. The women's new residence hall, costing approximately $180,000 for building and furnishings, will accommodate 190 women. The new gymnasium building is said to compare favorably with any physical education center in the state. The gymnasium will be on the first floor and classrooms and recreation rooms will occupy space on the second floor.

Turkey Spends Millions in Changing to Latin Alphabet

The Turkish government has expended more than $3,000,000 in the dissemination of propaganda for the newly adopted Latin alphabet and faces additional expense in scrapping the entire present issue of stamps and paper money bearing the Arabic letters, according to the *Journal of Education.*

The amount already spent covers subsidies to publishing houses and newspapers for the purchase of new linotypes, and the publication by the government printing house of 1,000,000 books and pamphlets.

The attractive Simmons furniture makes this bedroom wonderfully pleasant and homelike. Bed No. 1070, Library Table No. 22086, Chair No. 22401, Chiffonier No. 105, and Chair No. 105

The Student *Establishes* the *Reputation of the* School

IS the student bright, happy? If so, your school gets much of the credit. Your reputation is established on the showing he makes. For it is realized that the teaching staff and *living conditions* have exerted the proper influence upon him.

***Home comforts* at low cost!**

The student can do his best work when his surroundings are made pleasant. Simmons metal furniture, good looking, sturdy, and fireproof, means cheerful homelike rooms . . . at low cost to you!

Warping and twisting, splitting and easy marring make the upkeep of ordinary furniture troublesome and expensive. The Simmons all-steel construction eliminates these faults. Therefore, you need never spend money on repairs. And replacement costs are reduced to a minimum because this remarkable furniture gives lifetime wear!

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Maple Flooring for Schools

REPEATED tests have proven that there is no substitute for hard maple floors in schools. Its even textured fibres toughened by hard winters assure you of the floor which will withstand the rough and hard usages to which they are exposed by children's feet. By specifying Robbins Hard Maple Flooring you are assured of a first class floor.

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VALLEN NOISELESS CURTAIN CONTROL EQUIPMENT

THE VALLEN NOISELESS ALL STEEL SAFETY TRACK
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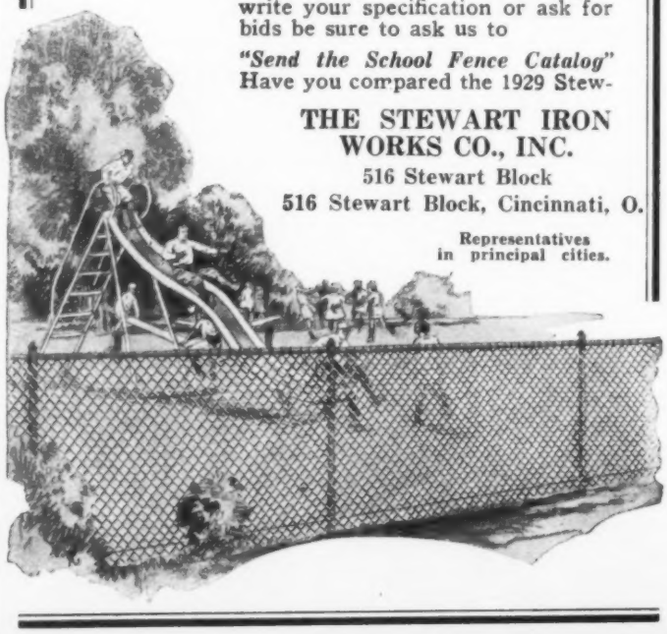

12 miles of Armstrong Floors

George H. Jones, architect, specified 2675 square yards of Armstrong's Linoleum for the Ockley Green School.

Now restless feet can't distract attention of pupils; this Ockley Green School classroom has a modern, quiet floor of Armstrong's Linoleum.

In Portland, Oregon, Schools

TWELVE miles of Armstrong's Linoleum Floors in the public schools of Portland, Oregon! No wonder educators everywhere see relief from floor worries in this latest endorsement of modern school equipment.

Wait, though. Of course twelve miles seem to represent almost a fabulous amount of floor space. It is a very definite school vote of confidence in high grade linoleum.

But there's a more important feature. Armstrong Floors have been installed not only in classrooms—the Ockley Green School, for example—but also wherever there's a definite need for permanent, quiet, economical floors.

That's good news! Now school architects, builders, and boards of education need no longer puzzle about the floors for any area in the school building. A wide pattern range gives you practically any floor design you desire. Several of these hundreds of patterns are the work of art school students in conjunction with Armstrong's corps of expert designers. So you have modernistic designs in addition to the marble, tile, and more conservative effects.

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Stage scenery for your Auditorium stage.

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Write for your NEW COMPLETE CATALOG No. 16 on Laboratory, Library, Domestic Science and Vocational Equipment.

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USES The Hild Floor Machine does five things. It will SCRUB floors spotlessly clean. APPLY liquid or paste wax. POLISH waxed floors. SCRUB off varnish and SANDPAPER. In operation all the weight of machine used rests upon the brush revolving 150 R. P. M.

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Polishing Brush
(All brushes can be attached to the machine or detached in a seconds time.)

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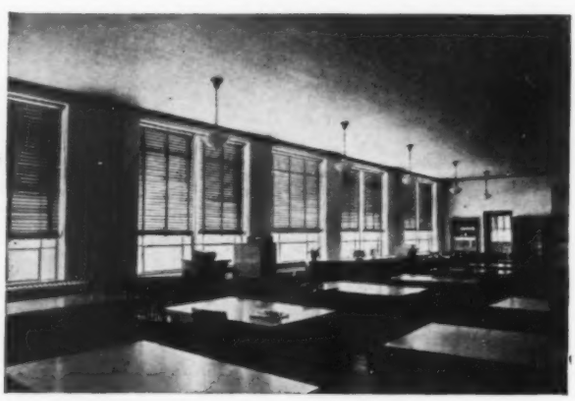

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ELECTRIC DUMBWAITERS INC.

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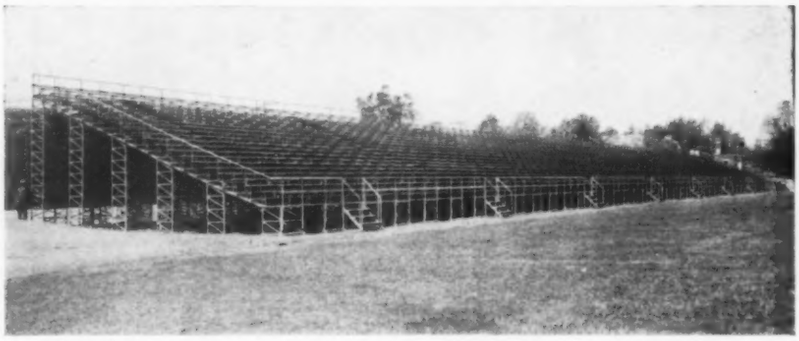

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for greater Durability, Sanitation and Economy

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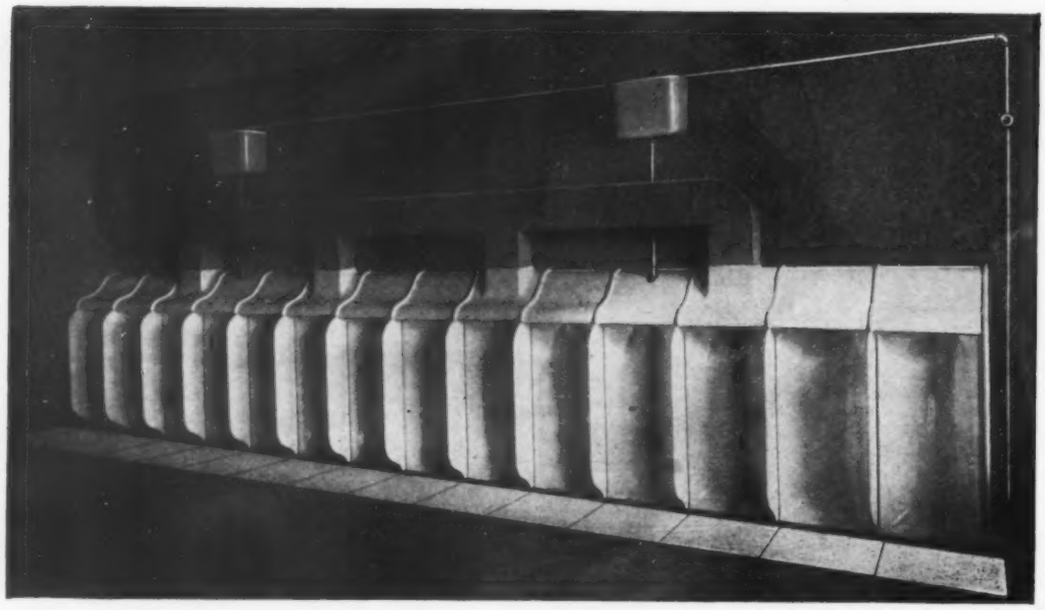

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Hathaway-Brown School, Cleveland, Ohio, which enjoys the advantages of having its own laundry, a completely "American"-equipped department.

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This economical "American" laundry unit has solved, once and for all, the laundry problem of the Hathaway-Brown School, Cleveland. Wearing apparel, linens, towels—are washed immaculately, ironed perfectly, returned to immediate service. And at a cost surprisingly low.

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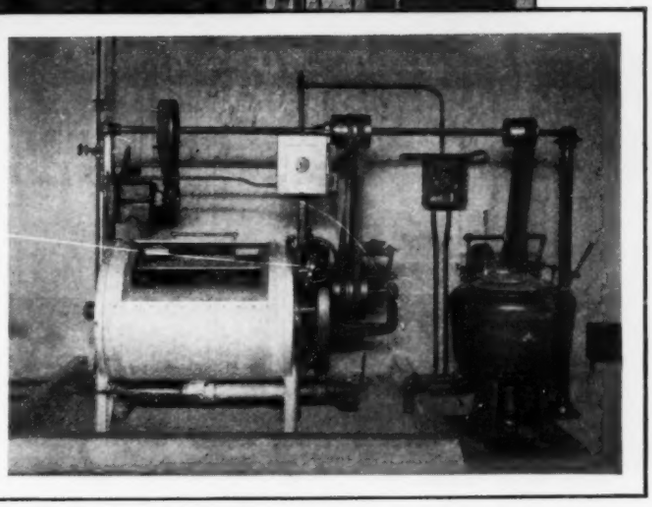

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furnished with our compliments in your own medicine cabinet will soon convince you that

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With Klein's All Wool, Individually Tailored
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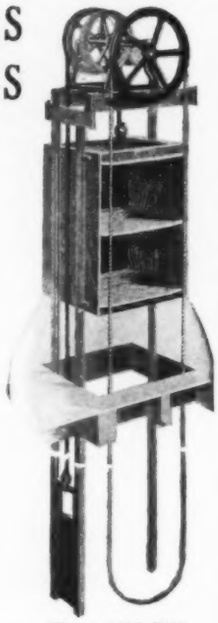

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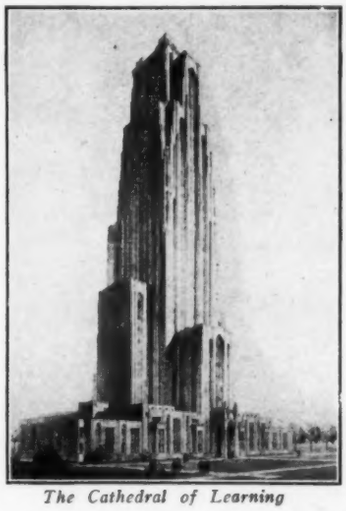

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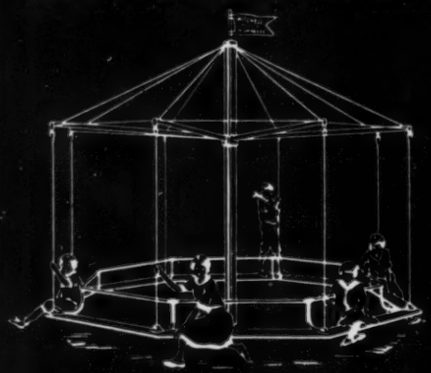

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ADJUSTABLE
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WITH a hygienic perfection that reflects an understanding of schoolroom lighting and ventilation needs, Draper Adjustable Window Shades stand out as the basis of school window shade comparison. Ideal for schoolroom use, because specially selected and processed material makes daylight mellow and soothing, thus preventing all glare and eyestrain. Adjustable—so that ventilation may be controlled.

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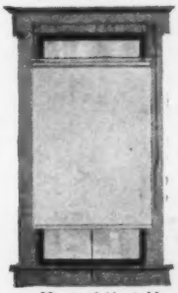

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AWNING TYPE STEEL WINDOWS

Invented and Developed by
John J. Donovan, Architect, A. I. A.

When fully drawn the individual shades on each sash acts as awnings.

Upper sash open —lower sash closed.

Upper sash closed —lower sash open.

The Ideal Window for OFFICE BUILDINGS, SCHOOLS, COLLEGES and HOSPITALS.

Diffused Daylight.
Draughtless Ventilation.
Lower Sash Operates Upper Sash.
No Window Poles Required.
Shades Act as Awnings.
Quality Workmanship.
Moderate Cost.

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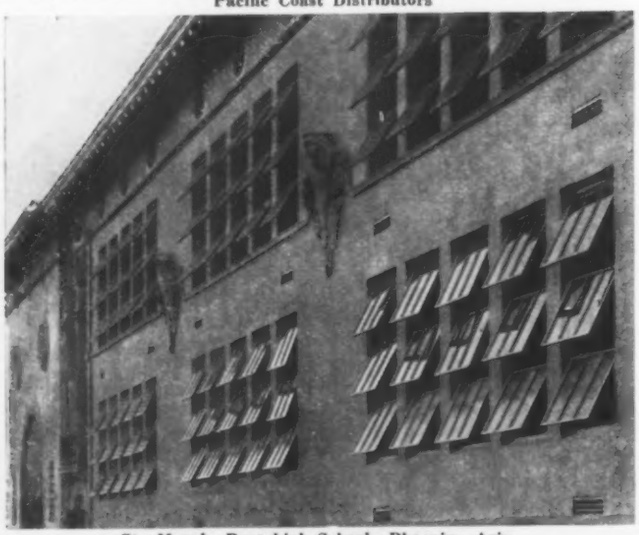

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from acid waste lines are destructive, dangerous and insanitary; and such leaks are sure to occur when ordinary drain pipe is used in the school laboratory.

Duriron soil pipe alone resists the attack of all corrosives, and provides an approved plumbing material that lasts with the building.

Complete catalogue in "Sweet's". Preprint if you want it.

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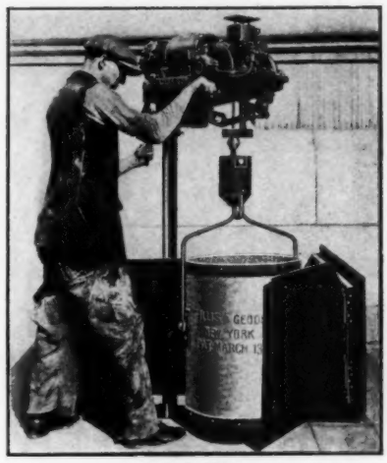
WEST



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With Automatic Stop and Gravity Lowering Device

"INTER-TWILL" Window Shades *for* SCHOOLS

Fulfill all requirements

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Made in the color tone of your choosing

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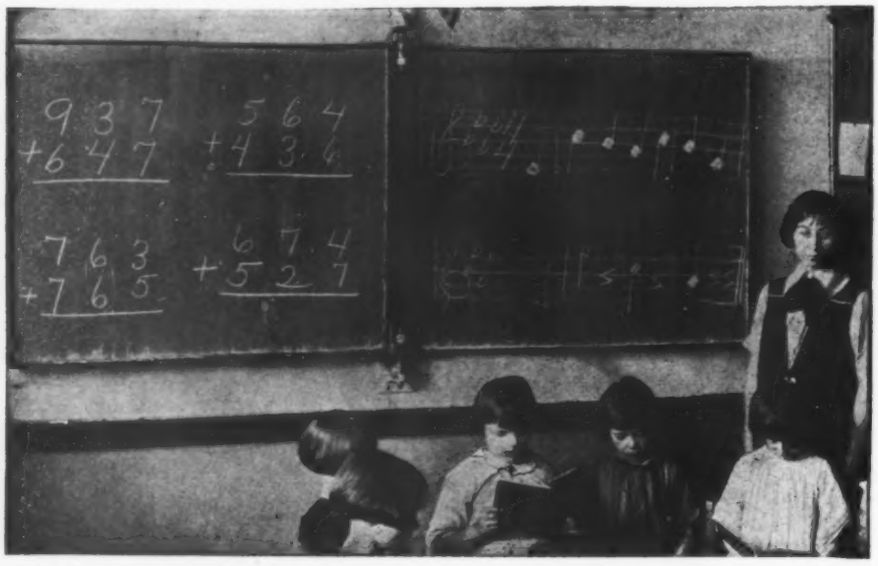
The only fire escape with Service Records approved by the Underwriters' Laboratories



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Its uses are legion. For lesson recitation . . . for pupils' exhibitions . . . for material to flash on the class . . . for lessons to be saved from day to day. Teachers regard the Alternator as INDISPENSABLE. Write for our amazingly low prices and for Catalog No. A-4.

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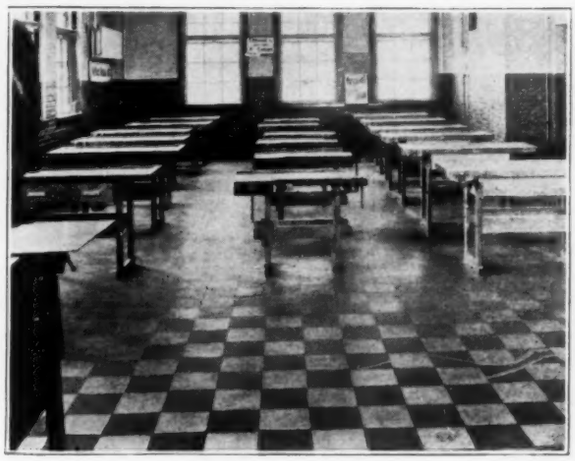
Sunset Hills School, Pittsburgh, Pa.; Ingham & Boyd, Architects, Pittsburgh, Pa.; Standard Floor Co., Pittsburgh, Pa., Distributor.



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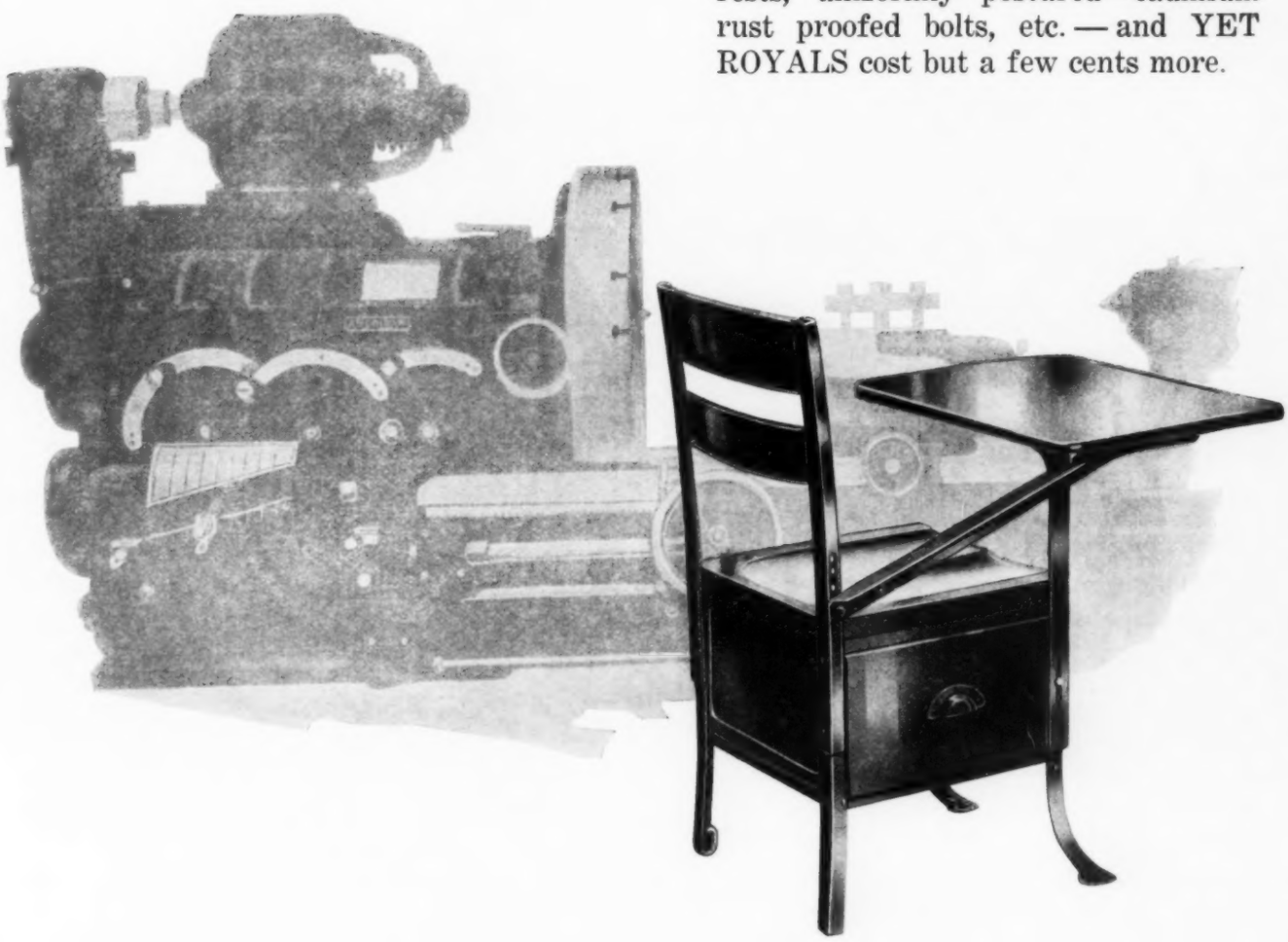

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CORRECT POSTURE MEANS SADDLE SHAPED SEATS

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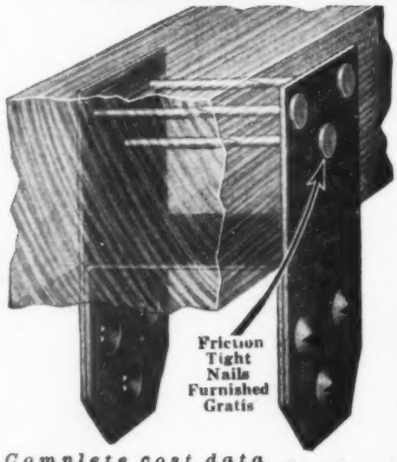

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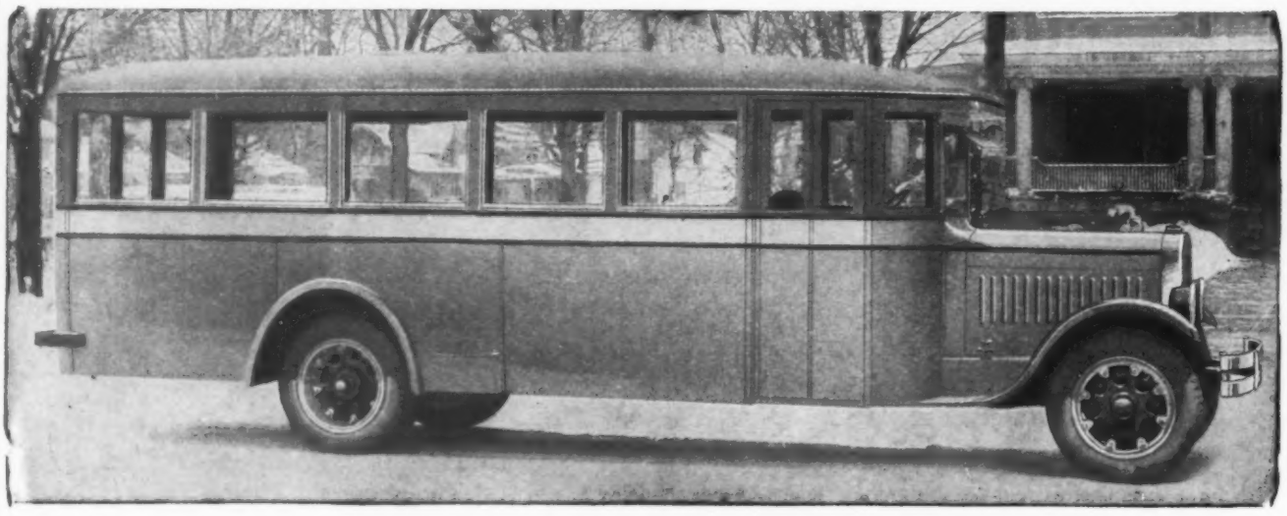
ANCHOR WOOD FLOORS TO CONCRETE



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Architect: M. Ed. Gee, Board of Education, Toledo

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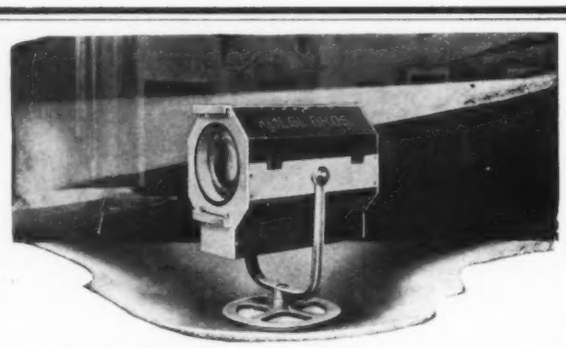

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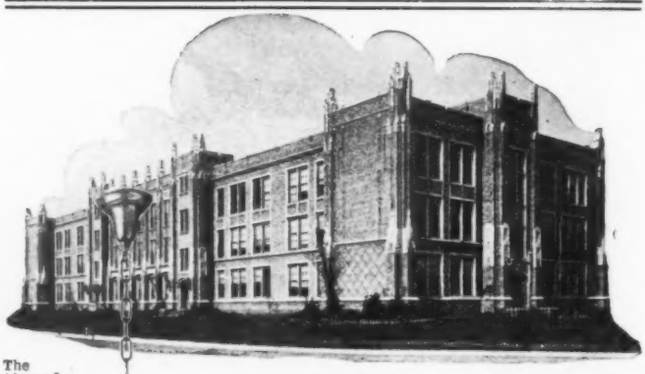
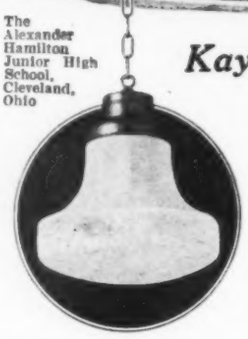


The Alexander Hamilton Junior High School, Cleveland, Ohio



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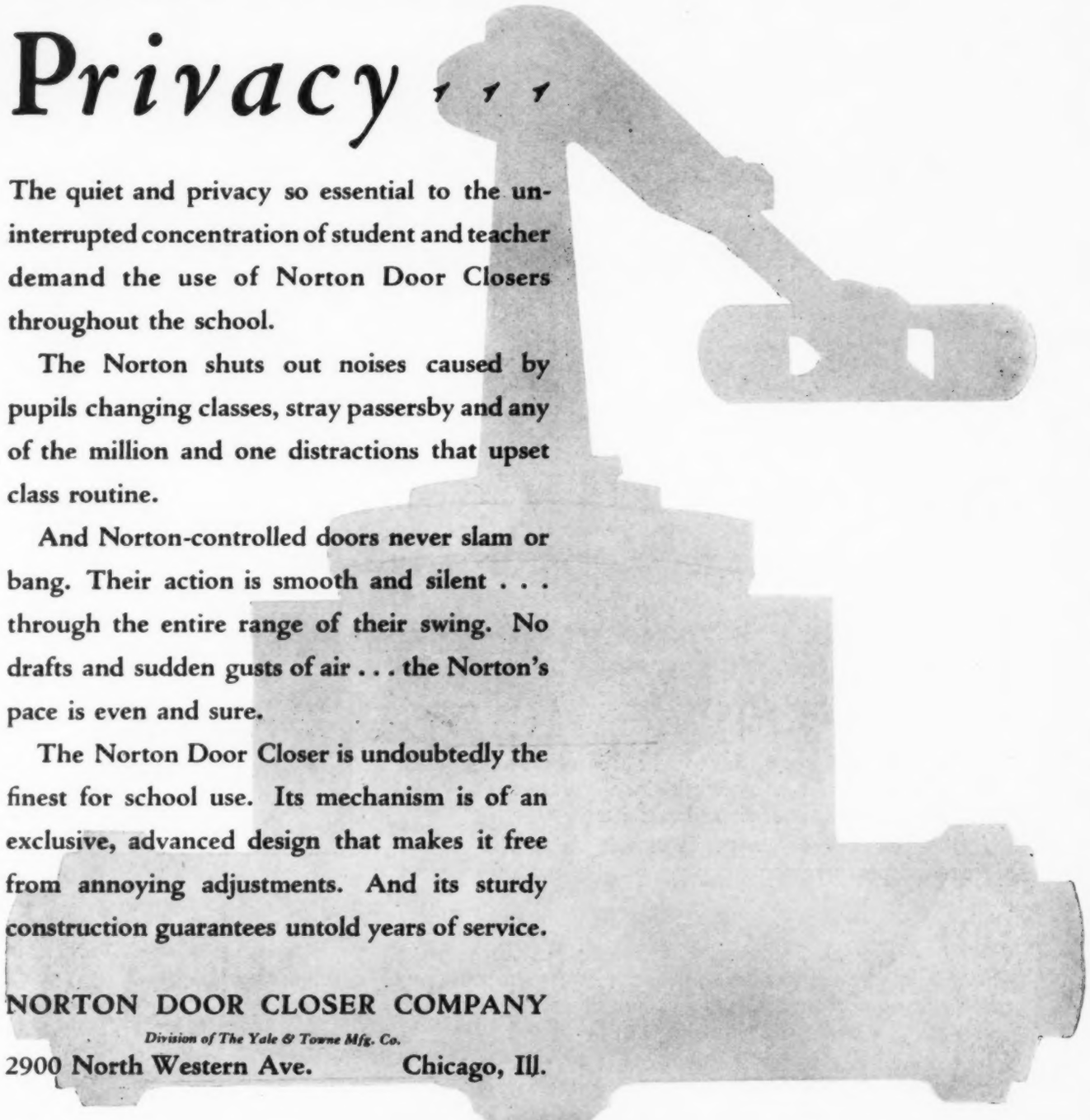

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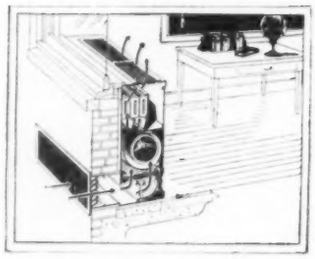

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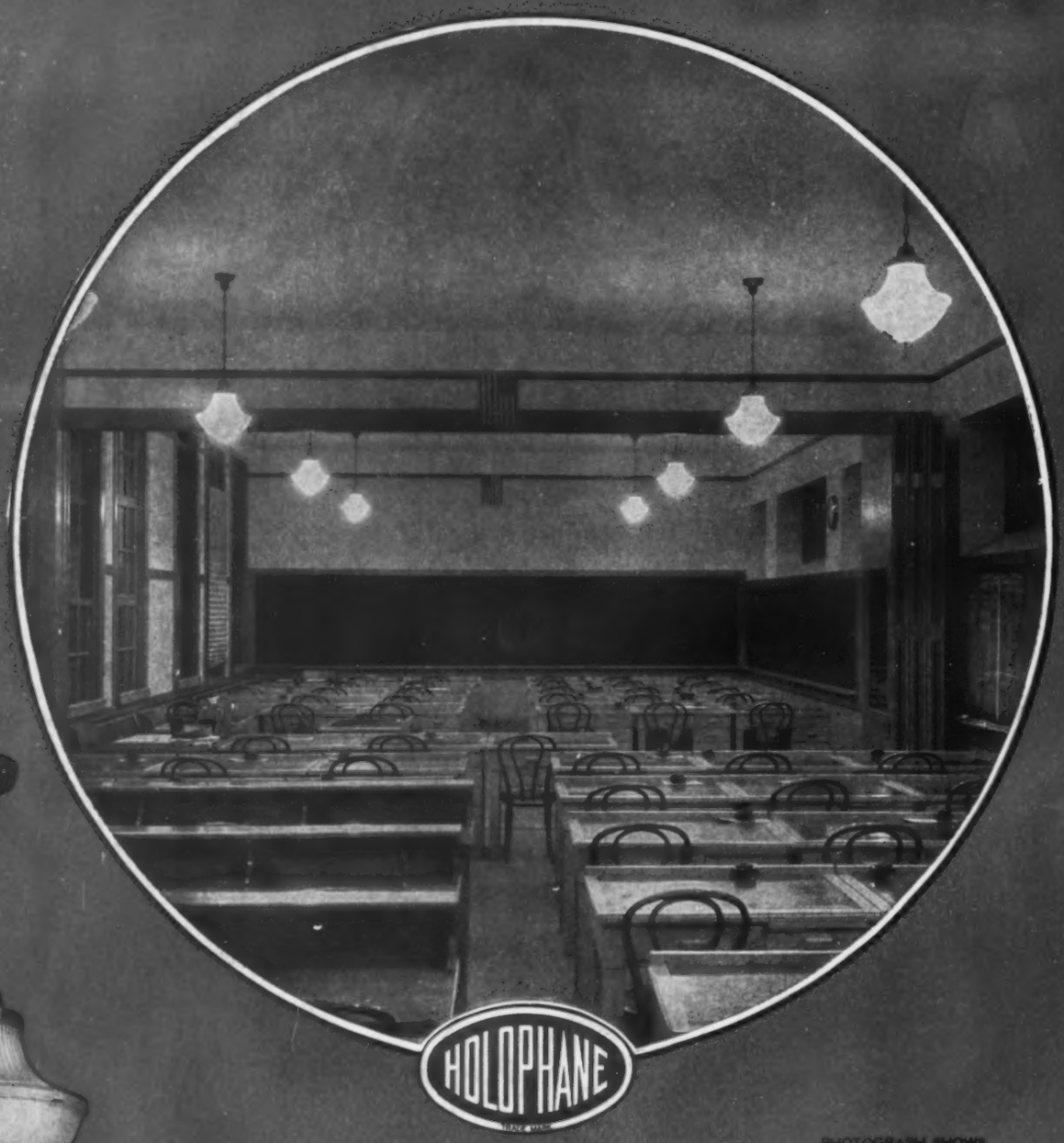

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